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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

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FIFTY-FIRST YEAR

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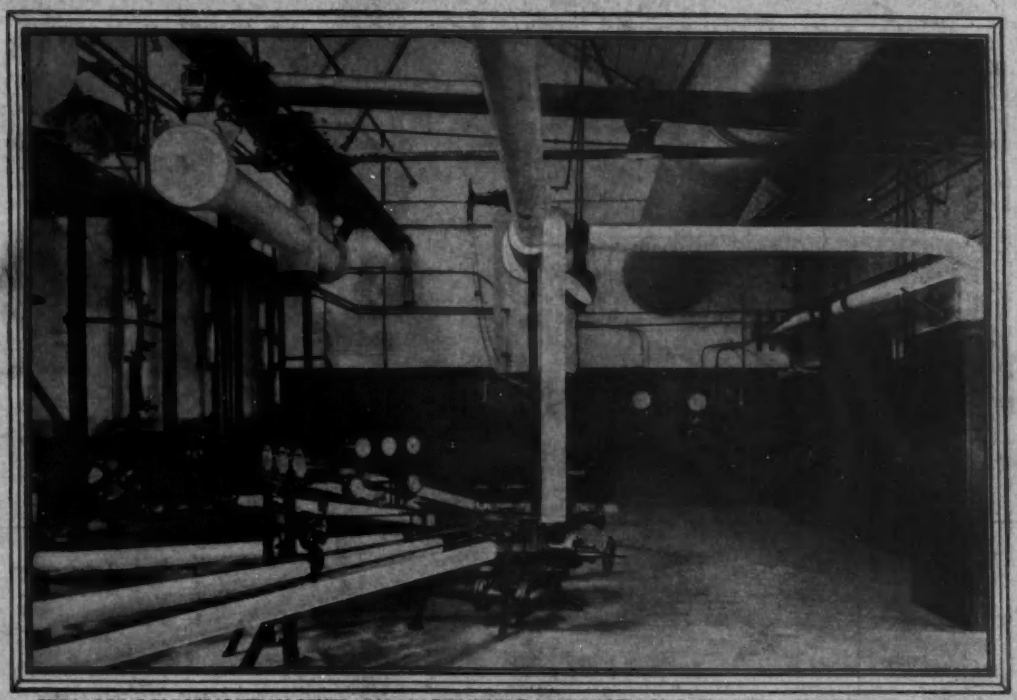

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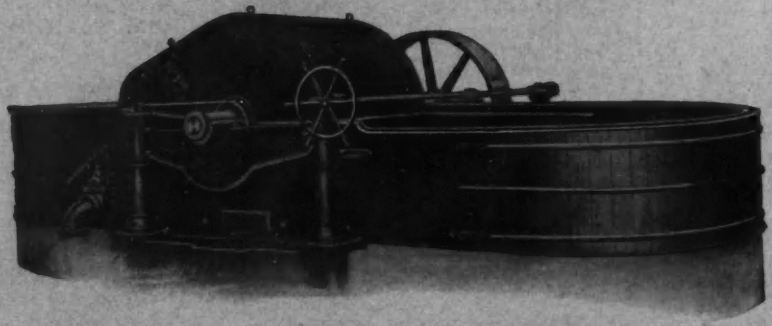

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Manufacturers of

Paper Making Machinery

ESTABLISHED IN 1872

PAPER TRADE JOURNAL

The International Weekly of the Paper and Pulp Industry and the Pioneer Publication in its field

FIFTY-FIRST YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL COMPANY, Inc.

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NEWS PRINT MEN COMPROMISE WITH UNIONS ON NEW WAGES

Nine Manufacturers Meet With Brotherhoods at Murray Hill Hotel and Thrash Out Differences—All Possibility of Strike Averted by Attitude of Conciliation on Both Sides—Skilled Men Receive Five Cents an Hour Increase, Unskilled a Minimum of Forty Cents an Hour—New Wage Contract to Run Until May 1, 1924—Great Northern Makes Separate Agreement.

Representatives of nine news print and pulp manufacturing companies signed an agreement here last week with six labor unions by which skilled and semi-skilled workers will receive five cents an hour more than they did last year and unskilled laborers will have a minimum of forty cents an hour. This will mean an increase for common labor varying with the amount that has been paid in the individual sections where the mills are located. The new wage contract went into effect on Monday and will last for one year.

There was an unofficial rumor that the Great Northern Paper Company had agreed alone with its employees to pay unskilled labor five cents more an hour. Since they have been paying them forty cents an hour this will mean that the Great Northern common laborers will receive on an average of slightly more than those in the mills which settled together.

Thousands of Workers Affected

The agreement affects the wages of a total of more than 30,000 men according to Jeremiah T. Carey, president of the International Brotherhod of Paper Mill Workers. Several weeks ago the unions served notice that they would expect an increase of eight cents an hour for unskilled labor and ten cents for skilled.

Employers countered with an offer of an increase of four cents an hour which the unions refused. The five cent rate with the forty cent minimum was finally brought about as a compromise after an all-day conference at the Murray Hill Hotel.

Northwest Superintendents to Meet

The Northwest Division of the American Paper Mill Superintendents' Association will hold its Annual Spring Convention at Port Edwards and Wisconsin Rapids, Wis., on Friday and Saturday, May 18 and 19, 1923.

The committees on arrangements met in the parlors of the First National Bank at Wisconsin Rapids Tuesday night, April 24, and completed plans for the two day event which will include trips through all the pulp and paper mills at Nekoosa, Port Edwards, Wisconsin Rapids, Biron, Plover, McDill and Stevens Point, with banquets and luncheons at Wisconsin Rapids, Port Edwards and possibly Stevens Point.

There are 75 members to this Division of the Superintendents' Association, all the best known and most active superintendents of the mills of Minnesota, Wisconsin and Northern Michigan.

The Technical Association of the Pulp and Paper Industry has been invited to meet with this Division and the managers of the 75 or more mills have also been invited so it is expected that there will be at least 200 and possibly more visitors in Wisconsin Rapids for these two days.

The main session will be on Saturday at Wisconsin Rapids followed by a banquet. There will probably be speakers from various parts of the country and papers on many points of mutual interest to those in the pulp and paper industry will be presented.

The officers of the Northwest Division are:

Len E. Smith, chairman, Nekoosa, Wis.; W. A. Kelley, vice-chairman, Green Bay, Wis.; Capt. Wm. Kraske, secretary, Wisconsin Rapids, Wis.

The chairman of the various committees are:

Warren Beadle, Wisconsin Rapids, arrangements, Wisconsin Rapids; O. L. LeRoux, Port Edwards, arrangements, at Port Edwards; Clarence Jackson, Wisconsin Rapids, publicity; B. T. McBain, Port Edwards, program.

International Paper Co. in New Offices

The International Paper Company moved on Monday from its old offices at 30 Broad street into more convenient and better quarters in the new Pershing Square Building, 100 East Forty-second street. Its move was prompted by the general exodus of large business houses to the center of the city and its directors felt that since is was interested neither in banking nor in the Stock Exchange—except indirectly—that it would be more advantageous to move further uptown.

The floor space in the new office is not much larger than that in the old, being about 34,000 square feet. Arrangement of the offices is more convenient, however, and ventilation and light problems have been effectively solved. A small part of the new space will be sublet. The offices are on the eighteenth and ninteenth floors.

Just before vacating the old quarters the International Paper Company held its annual meeting and election. G. F. Underwood, P. H. Jennings, R. Pagenstecher and Allen Curtis were all re-elected to act as directors for the coming year.

At the same time a report was given out which said that the concern had earned more than $400,000 in the month of March. The volume of its business was said to have been greater during that month than in any other with the exception of one, in the history of the company. The March earnings figure out at a rate of about $19 annually on the 240,000 shares of preferred stock.

Sulphur Output in 1922

The output of sulphur in the United States in 1922, according to statistics collected by the Department of the Interior through H. A. C. Jenison, of the Geological Survey, was 1,830,942 long tons, as compared with 1,879,150 long tons in 1921, but the shipments, which were 1,343,624 tons, greatly exceeded those in 1921, which amounted to 954,344 tons. The large stocks previously accumulated by producers were materially increased during 1922.

The total value of the sulphur shipped was greater in 1922 than in 1921, but the value per long ton was less. The value of the sulphur produced or shipped cannot be estimated accurately because the only indexes of value available are the market quotations, which show only the selling prices at certain times, and as the quantities sold at each price quoted are unknown, the weighted average price cannot be calculated.

The imports were so small as to be negligible, but the exports amounted to about 487,969 long tons, compared with 285,762 tons in 1921, an increase of 202,207 tons, or about 71 per cent.

Plans for Salesmen's Luncheons

Plans are already being made for renewed activities of the paper salesmen's organizations in New York and New England. R. D. W. Ewing, new vice-president for New York called a luncheon for April 27 when plans were discussed for the Salesmen's Association's activities during the coming year, particularly as affecting the New York district. Walter E. Perry, new vice-president for the New England division, announced that the last Monday in every month has been selected for regular meetings of the members of the Salesmen's Association at Holyoke. The first of this series will be held April 30, the others May 28, June 25, etc. The luncheons will be held at the Nonotuck Hotel, and the New York, New Jersey and Pennsylvania members are invited, as well as those in New England. The Boston luncheons are being continued under the leadership of John Hussey, and the Chicago men will continue their weekly luncheons at least until the summer period.

PHILADELPHIA PAPER DEMAND CONTINUES ON SOUND BASIS

Activity in Both Fine and Coarse Paper Divisions of the Market Is of Entirely Satisfactory Character—Demand for Cheaper Grades of Paper Stock Is Inactive—Welsh Paper Co. and Paper Service Co. Take Possession of Their New Warehouse at 19 South Seventh Street—Raymond & McNutt Expand Their Quarters—Philadelphia Box Supply Men to Exhibit at Convention.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, May 1, 1923.—In the fine paper trade the week moved along with general satisfaction to all. Buying was entirely free from rush or boom, but it continued sound and wholesome and with little or no evidence of any spottiness. No change of importance in prices developed.

In the coarse paper market conditions also were entirely satisfactory, nearly all values being firmly held and some showing a tendency towards advancement. One of the larger manufacturers of No. 1 Kraft paper advanced his prices during the week, but it is not believed that this is the beginning of a general rise at this time. Screenings are very firm in price and with no large supply available. Manilas and fiber papers are selling steadily and at unchanged prices.

The rather unexepected decline in mill demand for the cheaper grade of stock continued and prices are very unstable and accumulations in the warehouses are beginning to show themselves. While there is no glut of this stock on the market, it is believed that unless mill consumption increases soon, vigorous reductions in quotations will have to be made to move the stock.

Welsh Paper Co. in New Home

The Welsh Paper Company at the head of which is J. M. Welsh and the closely allied Paper Service Company at the head of which is his son, W. A. Welsh, on Wednesday of last week formally took possession of their new executive offices, warehouse and sales store in the building, 19 South 7th street. The entire structure has been leased by these two organizations and for the present they will occupy a major portion of it and eventually perhaps all. Removal was made from the old headquarters on an upper floor of the Carter Building at the northwest corner of 7th and Chestnut streets where the firm has been located for the last three years. Because of the store facilities in the new location, there will be developed here what was not possible in the old stand, a general store business, considerable open stock being carried in the lines that the two firms respectively cater to. The Welsh Paper Company specializes in fine paper for printers, lithographers and allied converters and the Paper Service Company in coated, flint, friction and other paper, particularly for the paper box manufacturing trade.

Recovers Voice on Air Trip

Startling, but most welcome recovery of a lost voice is reported to have been the fortunate experience during the week of Jack Shryock, descendant of the famous family of Shryocks who were pioneers in straw-board manufacture in Pennsylvania, while on an aeroplane trip from his home town of Chambersburg, Pa., to Philadelphia a distance of 100 miles. At the present time Mr. Shryock is and for several years past, has been general manager, of the boxboard department of P. Sullivan & Sons of this city. Two years ago he lost the use of his voice and although he subjected himself to lengthy medical treatment and to several ocean voyages, found little improvement and had almost given up hopes of ever being able to speak again. In the course of his ride through the air, the plane was caught in an air pocket, making a sudden drop of perhaps only 50 to 100 feet, but the effect of which was to give Mr. Shryock a peculiar feeling in his throat and immediately afterwards an intense headache. It was only when he landed on the aviation field at Essington that he discovered his voice had returned. He has been giving friends in the trade an oral demonstration of the wonderful transformation wrought by this incident or accident on the aeroplane trip. A number of his friends are arranging a testimonial dinner to celebrate his recovery from the affliction. A committee in charge has been appointed consisting of Frank A. D'Miller, Edward R. Grossman and Samuel S. Alcorn.

Expansion of Raymond & McNutt

Because of consistent expansion in business of Raymond & McNutt, 825 Walnut street, which concern is one of the five Strathmore distributors and which features a line of wedding and business announcements stocks. The firm has just taken occupancy of the fifth floor of the large commercial building of which it previously occupied the basement, first floor and parts of the second and third floors. An auto delivery truck was placed in service during the week. New lines just taken on by the Raymond & McNutt Company include the Stillwater Bond made by the Peerless Paper Company; a new coated book by the McLaurin-Jones Company and the new line of Georgian papers made by the Worthy Paper Company.

Box Supply Men Outing

Representatives of all the paper distributors catering to the paper box manufacturing industry are participating today in the annual outing of the Philadelphia Paper Box Manufacturers' Association which is being held at Kugler's Old Mohican Clubhouse, Morris-on-the-Delaware, just below Palmyra, N. J., where there is to be some discussion of trade matters, much more of the toothsome Delaware shad, and finally in the afternoon a varied program. The committee in charge consists of Walter Deisroth, chairman, William K. Jefferies of the Peerless Paper Box Company and Edwin A. Lee of the Lee Paper Box Company. The supply salesmen to the box trade of whom of course the paper representatives constitute a majority, recently were invited to become associated members of the box makers' organization and among those who have made application for it are A. Hartung & Co., 506-12 Race street; Charles W. Williams & Co., Inc., The Bourse; Paper Service Company, 19 South Seventh street; Matthias & Freeman, 117 North Seventh street; Louis DeJonge & Co., 116 North Seventh street; A. S. Datz & Son, 16 South Marshall street and Philip Rudolph & Son, Inc., Orianna and Willow streets. Representatives of the new associate members are contesting with their sales patrons on the baseball diamond.

Paper Houses Will Exhibit

Philadelphia box supply men who will be represented at the National Convention of the National Paper Box Manufacturers' Association to be held in Indianapolis, Ind. on May 8, are: Matthias & Freeman, 117 North Seventh street occupying Booth 85, in which will be displayed a complete line and elaborate in detail of box makers' papers including cover papers of all domestic manufacture. Among them will be some never before successfully manufactured in this country and developed for marketing only within the past month. These papers formerly were imported from German manufacturers. The display will be in charge of Charles Matthias, son of Walter J. Matthias, head of the firm and the western representative, Samuel Craig who is also president of the National Box Association Supply Men's Associate Membership. The Charles Beck Machine Company, 609 Chestnut street occupying Booth 66, with Charles J. Beck, head of the firm and J. F. Wilhelm in attendance, will exhibit the Beck automatic rolled sheet cutting machine, demonstrating it in operation. A. S. Datz & Son, 16 South Marshall street, represented by John Datz, head of the firm, will visit the box makers in convention, representing the firm's line of cardboards, cover papers and coated specialties. Philip F.

Rudolph of Philip Rudolph & Son, Inc., Orianna and Willow streets, presenting box makers' board. A. Hartung & Company being represented by Edward W. Hartung, head of the firm, and a complete sales force who will occupy a booth, displaying the full line of box makers' cover papers and specialties of the Hartung stock. A. H. Wilkins, sales manager of Pinco Paper Inc., Camden, N. J., accompanied by Mrs. Wilkins, will represent the Pinco line of domestic made coated papers, single and double and numerous specialities whoch the firm now is making at its plant across the river from Philadelphia and which formerly was the establishment of the late E. G. Locke and purchased from the estate by Thomas Pinder who was for many years connected with the Dill & Collins Company. The Pinco Papers, Inc., recently appointed Theodore Manz as Rochester representative with headquarters at 7 Grand street in that city. He will represent the firm in New York State and Canada. There recently was added to the Pinco line a new coated red paper to be known as Radio red resembling a blood orange shade, and it will become a permanent stock production.

Exhibition of Box Makers' Supplies

The exhibition of box makers' supplies will be a feature of the fifth annual convention of the National Paper Box Manufacturers' Association whose headquarters are located at 112 North Broad street, this city. The central meeting which will be held in conjunction with the annual meeting of the Western Division informally opens on Tuesday, May 8 and on Wednesday the business sessions will begin, that of the Western division in the morning and of the National Association in the afternoon, the features of the latter being the address by National President, H. O. Alderman and the reports of National Secretary, William W. Baird and National Treasurer, A. W. Hutton, and finally an address on "Modern Activities of a Marketing Organization" by Professor Willard E. Freeman of the Massachusetts Institute of Technology. On Thursday, the chairman of the several divisions of the association will report on business conditions in their respective districts and in the evening the paper and other supply men will entertain. A cost forum will be held Friday morning with an address on "The Purpose of the Cost System" by F. H. Figsby, resident manager of Ernst & Ernst. On Friday, "The Business Rogue's Gallery" will be the subject of an address by Merle Sidener, president of the Sidener Van Riper Advertising Company, Indianapolis, and in the evening a banquet will be served and with speakers of national renown.

Paper Merchants Sail for Europe

Because of the large measures of success enjoyed by the Paper House of Pennsylvania in the marketing of Finnish news print imported direct by it and which culminated last week in the use of this paper by each of the Philadelphia morning and afternoon newspapers for some part or all of their editions, President Norbert A. Considine sails today from New York for London for the purpose of visiting the mills in Finland and Scandinavian Peninsular and in Germany. Mrs. Considine will accompany him. He expects to reach Finland towards the end of May and to remain in that country until the third week of June, returning to this city between July 1 and July 10.

President Edward A. Hemingway of the E. A. Hemingway Company, paper stock dealers who only returned from a trip to Florida in time to participate in the memorably successful eighteenth annual banquet of the Paper Stock Dealers' Association in the Hotel Adelphia last week, set sail this week for an extensive trip through the former warring countries of Europe and on his return will go direct to his lodge in Canada. His return to this city is not expected until fall.

Geo. W. Ward Entertains

Seventy-five representatives of the Graphic Arts Industry in Philadelphia, including artists who make the pictures, the craftsmen who place them in printing form, the layout men who arrange them, writers of advertising matter and big buyers of advertising were the guests during the week at the Poor Richard Club, Philadelphia, of President George W. Ward, of the D. L. Ward Company at a notable meeting called to advance the plane of art in advertising. Speakers were Watson M. Gordon, advertising manager of the S. D. Warren Company, and Jesse W. Clark, of the same organization, who set forth what the Warren Company was doing to advance the character of the media on which art production both in illustration and in typography could be properly reproduced for the public, and who made the story of papermaking very clear not only by their verbal presentation but as well by an exhibition of the well-known Warren movie film.

General News of the Trade

Victor A. Arndt who joined the Garrett-Buchanan organization when it took over the stock, lease and goodwill of the Whitaker Paper Company with which he previously had been connected, has severed his services with the Garrett-Buchanan Company.

The Charles Beck Company this week will send out to the trade samples of the new and very exquisite line of cover papers made by the A. M. Collins Manufacturing Company and marketed under the Oxonian brand. The new line is a high grade cover paper in five colors with leather effect and either in plain or embossed surface.

Continued progress is being made by the Garrett-Buchanan Company in recovery from the effects of its recent disastrous fire and it is now between 80 and 85 per cent restored to the condition before the blaze occurred. During the week artisans who are constructing its new six story reinforced concrete warehouse on—or rather over the old brick buildings at 3-5 South Marshall street which were its original business home, removed the front of those old structures in order that the iron beam for the new home could be raised. When the fourth, fifth and sixth floors of the new building are finished so that stock now in the building beneath can be removed into them, the old structures will be razed also.

Public notice was given during the week that Frank Adshead, Egbert H. Farr and Robert H. Crompton as assignees for the benefit of creditors of Walter E. Ford and Wallace H. Arnaiz trading as the Frankford Waste Company recently assigned, have filed an account in the Court of Common Pleas, No. 1, that it is open to examination of all interested and that it will be presented to the court on Friday, May 18, for confirmation and for the distribution of the balance on hand among the creditors.

The Board of Commissions of public grounds and buildings at Harrisburg will open bids at noon today for the supply to the Commonwealth of paper and envelopes for the year ending May 31, 1924.

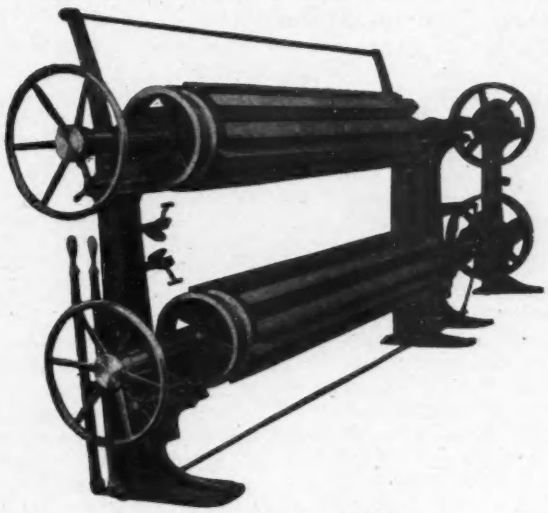
James McKean, Jr., lately on the sales organization of Raymond & McNutt, 825 Walnut street, has joined the sales force of Riegel & Co.

Maine Paper Mills Handicapped by Floods

[FROM OUR REGULAR CORRESPONDENT.]

AUGUSTA, Me., April 30, 1923.—Paper mills on the Kennebec had their trials last week with flood conditions on the river, due to a sudden warm spell melting vast amounts of snow in the north woods. Production was curtailed at the Cushnoc Paper Company mill in this city, the groundwood mill and the cedar room being affected. The Hollingsworth & Whitney Company at Waterville kept all its employees at work, although Manager Robert Nivison reported a 25 per cent loss of power due to backwater. The paper plants were more fortunate than the cotton mills, one of which had to close, throwing 850 employees out of work. It was to prevent such occurrences that the power using corporations of the Kennebec valley petitioned the last legislature for permission to establish a large reservoir at Dead River. Their petition was denied on account of Governor Baxter's stand on the matter.

Beloit Two-Drum Upright Reel



No. 82—Beloit Upright Reel

A STANDARD safety-first upright reel made to conform with strictest regulations of state laws as to clearance between drums, which rotate in opposite directions, making it impossible for a man to get drawn in between them. Spools are made either of wood bat construction or of cast iron, as preferred. Drums are made for end and side adjustment. They are equipped with frictions for use when unwinding. Also equipped with friction clutches for starting and stopping. Special attention given to lubrication of bearings, which are self-aligning. Well built throughout for steady service.

Send Your Specifications to Beloit for Satisfaction

Beloit Iron Works **Beloit, Wis., U. S. A.**

PRICE BROS. & CO.'S INTEREST IN QUEBEC DEVELOPMENT CO.

According to Sir William Price Holdings in Company Now Amount to 25 Per Cent, Giving Price Bros. & Co. an Equity of No Less Than Six and One Quarter Million Dollars in the Concern—Prospective Price of News Print Causes Much Speculation—Plant of the Westminster Paper Mill at New Westminster, B. C., to Be Enlarged—May Build Paper Mills at Grand Falls.

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., May 1, 1923.—One of the most important developments in Canadian corporate history, as well as a matter of extreme importance to shareholders of Price Bros. & Co., Limited, is the statement made by Sir William Price that the company now owns a 25 per cent interest in the Quebec Development Company, Limited, which company is now carrying out the development of the fraud discharge waterfalls, on the Saguenay River. As the capitalization of this latter company is $25,000,000, it is evident that Price Brothers & Co. have an equity of no less than $6,250,000 in the huge power scheme. Sir William's statement was made in the annual report of the company which has just gone forward to shareholders, in which report he also states that during the year the directors have completed plans for the expansion of its news print operations, the first step of which will make the Kenogami mill a self-sustaining plant with a daily capacity of 500 tons news print. The annual statement shows earnings equivalent to 2.85 per cent on the outstanding common stock for the year ended February 28, 1923. Had it not been for a new charge of over $700,000 on account of depreciation net profits would have been closer to 5 per cent on the stock.

The Price of News Print

The statement of Mr. Dodge, president of the International Paper Company, forecasting an increase to $80 per ton for news print, has created considerable interest here and has raised a suggestion of some interesting possibilities supposing the International Paper Company raises its price to $80 a ton and supposing also that the Canadian producers should decide to hold their rate at the $75 per ton level. It will be recalled that when the price of news print was undergoing its readjustment over a year ago the Canadian manufacturers got their price down to $80 per ton, which was then thought to be as far as the readjustment should go, taking into consideration the cost of production particularly in view of the high cost of wood which most every company in Canada, as well as the United States, was then working on. Considerable surprise and annoyance was caused when the International Paper Company carried its rate down to $75 per ton, where it has since remained, the Canadian producers having decided to follow suit to protect their customers in the United States. Having readjusted their positions in the meantime Canadian companies have been making good profits and the possibility of standing pat on their present price is talked about here. It is expected, however, that operating costs will increase considerably after May 1, as it is generally conceded that a wage increase will be granted. Commodity prices have also been advancing and it is possible that the price might have to be raised to keep profits on a reasonable basis, but, on the other hand, it is argued that it would be better for the Canadian industry if it could continue to serve American customers at the old rate which would give it considerable prestige and establish this country as the real arbiter of rates instead of following the International Paper Company as in the past. It is also argued that with the narrowing margin of profit for American mills retention of the present price would have a tendency to narrow down the competition which Canadian producers have to meet in that market and increase the number of their American customers.

"Save the Forests" Week

Canada has been participating during the past week in a "Save the Forests" campaign, with much space in the newspapers devoted to the question of forest conservation and with public meetings, etc. As far as Quebec Province is concerned, the Provincial Government has taken an active part in the campaign and Gustave C. Piche, the chief forester of the province, has issued an appeal to anglers to be careful with fires in the woods. He says that the country is now entering into the fifth cycle of a period of drought and that the coming summer will probably be one of the driest we have had. Extra precautions, therefore, are necessary to prevent fires.

Enlarging Paper Mill

Enlargement of the plant of the Westminster Paper Mill at New Westminster, B. C., is announced to cope with increasing business. Approximately half a million dollars is already invested in this company. Orders are increasing daily for the products of this mill, comprising wrapping paper, paper towels, second sheets, etc.

Grand Falls Development

Representatives of European capitalists have been in conference with P. J. Veniot, Premier of New Brunswick, with the idea of finding locations for the establishment of pulp and paper industries, as a result of recent announcements of the possible development of the Grand Falls on the St. John River by the province of New Brunswick. In addition to the money already spent by private interests in developing the Grand Falls, the government has announced its intention of expending approximately $1,000,000 for further development.

Victory Bag Co.'s Big Publicity Move

[FROM OUR REGULAR CORRESPONDENT.]

MARINETTA, Wis., May 1, 1923.—The Victory Bag and Paper Company of this city has the distinction, it is said, of being the only bag factory in the country to advertise its product nationally in the leading newspapers.

The management conceived the idea that in order properly to protect what is known as a "paper bag" and keep it sanitary and clean, it should be packed in fiber containers instead of the ordinary way of wrapping with paper and string.

About three years ago the company put out their first brand in fiber containers, under the name of "Pedigree Krafts." By the unique advertising method the retail value as well as the wholesale trade demand for this bag proved to it the success of advertising. Since that time two other of its popular brands are being packed in fiber containers. This put their line of merchandise in a class by itself and it is now being advertised throughout the United States as a "paper food container."

For the next two and one-half months its ads will appear in approximately fifty of the leading newspapers throughout the United States. The entire campaign is, educating the housewife and the retail grocer to use sanitary food containers instead of the ordinary paper bag.

Maine Superintendents to Meet May 23

On May 23 the Northern Division of the American Pulp and Paper Mill Superintendents' Association is to be addressed at Bangar, Me., by Walter S. Rooney of the Albany Felt Company, Albany, N. Y., on the subjects of Felt Manufacturing and the Paper Industry in Japan.

Mr. Rooney is also to deliver the same talk to the pulp and paper students of the University of Maine at Orono on May 24.

Wherever there's need for a shower in your Mill install a

BIRD SELF CLEANING SHOWER PIPE

It is a practical self cleaning shower pipe with which white water can safely be used.

Special Trial Offer.

BIRD MACHINE COMPANY
SOUTH WALPOLE MASSACHUSETTS

Western Representative—T. H. Savery, Jr.
1718 Republic Bldg., Chicago, Ill.

Canadian Builders of Bird Machinery
Canadian Ingersoll-Rand Co., Ltd.
260 St. James Street, Montreal, Canada

5143

FAIRLY GOOD PAPER DEMAND IS REPORTED FROM TORONTO

Business, However, Is Not as Active as It Was Expected to Be at This Time—Prices Are Firm on All Varieties of Paper But the Advances Expected for Sometime Past on Book and Writing Has Not Yet Materialized—Report That Provincial Paper Mills Is to Build a Soda Pulp Plant at Port Arthur This Year Is Said to Be Premature Although This Project Is Under Consideration.

[FROM OUR REGULAR CORRESPONDENT.]

TORONTO, Ont., May 1, 1923.—Business in the paper line continues fair, but has not yet gained that impetus which was expected. News print is very brisk and all the mills are busy, but jobbers still report the flat paper trade as spotty. There are no changes in prices, except an increase of ten per cent on printers' blanks. Prices in all other lines remain firm and the long talked of advance in book and writing papers did not materialize and nothing has been heard of any proposed change in quotations. Manufacturing stationers are rather quiet at present and the waste paper trade is dull. Just now this market is flooded and, while dealers are naturally reluctant to discourage business in any way, the recent drop in values is expected to reduce collection considerably. The congested state of affairs this spring is largely the result of extensive advertising carried on during the winter by the dealers to educate the public to the thrifty practice of conserving natural waste, especially paper. Some concerns are storing their stock until the tide takes a change.

Proposed New Soda Pulp Plant

A report from Port Arthur that the Provincial Paper Mills intend erecting in that city a soda pulp plant during the coming year for the purpose of making wood pulp out of poplar is rather premature, according to officials of the head office in Toronto. S. S. Duncan, treasurer of the company, states that the project is in line with the general expansion of the firm, but no definite time has been set when the work will go ahead. It will depend on the state of the book paper market in the future and the measure of success attending the new book plant, which was put in operation at Port Arthur a few weeks ago.

New Forestry Station Opened

The Department of Lands and Forests for Ontario is opening an office in North Bay for the better protection from forest fires in that district. It will be known as forestry district No. 4 and will be in charge of J. F. Turnbull, formerly of Tweed, Ont. Hitherto the district has been looked after by the Sudbury office. The Ontario department is taking vigorous means to stamp out all forest fires this season and the number of fire rangers will be greatly increased. The losses of late years in timber limits have been heavy and pulp and paper companies and lumber organizations are joining in the effort to preserve the wooded wealth of the North, where a great amount of pulpwood will be taken out by the settlers this season.

Work to Save Canada's Forests

Considerable work has been done by the Federal Government to prevent damage to the forests of Canada by insects and fungus outbreaks Hon. W. R. Motherwell, Minister of Agriculture, recently stated that much more should be done, and the authorities were ever ready to give careful consideration to representations made by the industries concerned in order to assist in removing the serious causes of losses to forest resources. Special investigation has been made in regard to the dying balsam and spruce in the East and a scheme of cooperation is contemplated between the owners of some timber limits and the Division of Botany, whereby the services of trained forest pathologists will be available for the study of various diseases affecting balsam and spruce in the eastern districts.

Contracting for Much Pulpwood

Contracts are now made with settlers in Northern Ontario for cutting pulpwood for the coming season. The work of cutting will start this month and continue until August. The Thompson & Heyland Company, of Toronto, has entered into contracts for supplying mills with 50,000 cords next season and will purchase considerable poplar for which there is an increasing demand. South of North Bay, peeled spruce and balsam is commanding from eleven to twelve dollars per cord, f. o. b. cars, and peeled poplar eight to nine dollars, while north of North Bay, owing to heavier freight rates, wood prices are from three to four dollars less. Most of the pulpwood along the railway tracks in the north has been shipped out and the demand of late has shown some improvement.

Ontario Lumbermen Resume Work

There will be an unusually large cut of lumber of all kinds in Ontario during the coming season and many plants, which have been inoperative for years, are being put in commission. The cut last winter in the bush was very heavy. There is a good demand for lumber of all kinds and dry stocks are very scarce. Labor will receive an increase of ten per cent at most mill points and help is reported scarce in some sections. A number of lumber companies during the past season took out a considerable quantity of pulpwood for some of the large pulp and paper concerns in Northern Ontario. This wood is now being floated down the streams to the mills, the breaking up of the ice being later this spring than for many years past.

Notes and Jottings of the Industry

Alex Fasken, of Toronto, who is a director of the Provincial Paper Mills and represents Ontario interests connected with the Porcupine mines, was the successful bidder recently when the Des Quinze river rapids were leased under the hammer, for a period of sixty years, at an annual rental of $80,000.

E. J. Jones, general manager of the Kapuskasing plant of the Spruce Falls Company, Spruce Falls, Ont., was a recent caller upon the paper trade in Toronto.

George Allen, of the Buntin, Reid Company, Limited, Toronto, who has been confined to his room with illness, is able to be at his desk again.

A movement is on foot among the timber limit holders of Ontario to form an association for the mutual protection of the wooded wealth of the province and the inauguration of better methods of logging and fire protection.

A charter has been granted to A. E. Carter, Limited, with headquarters at Fort Frances, Ont., to engage in the lumber, pulp and paper business.

W. J. Findlay, of the Strathcona Paper Company, Strathcona, Ont., was in Toronto recently and states that business in the sheathing paper line is very good at present, owing to the active construction campaign.

The Reg N. Boxer Company, Limited, who have for many years operated a wall paper plant in New Toronto, have taken out a Federal charter of incorporation, with an authorized capital of $750,000.

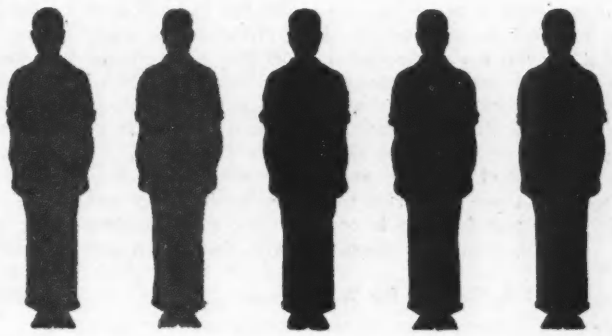
Wage Increases in Fox River Valley

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., April 30, 1923.—A flat increase of 5 cents an hour for unskilled and semi-skilled labor in the mills of the Consolidated Water Power and Paper Company at Wisconsin Rapids and Biron went into effect last week. The wage for unskilled labor is now $3.60 a day. The increase amounted to about 10 per cent.

Most of the Fox River Valley mills increased wages of their employees in April.

Why You Should Buy Niagara Beaters



You can shift men from your beater room to other parts of your plant.

Reason No. 5

Niagaras *lower* Labor Costs

With one Niagara doing the work of two and sometimes three Holland beaters, equipped with Valley Bandless Rolls, by far the easiest to care for, dumping clean with absolutely no raking down in about 3½ minutes, Niagara Beaters not only make it easier for the men handling them, but fewer men are needed in the beater room and can be transferred to other parts of the plant.

Niagara beaters are worth investigating. Find out more of the cost saving possibilities offered by Niagaras.

Valley Iron Works Company

Plant: Appleton, Wis.
New York Office: 350 Madison Ave.

Seven More—All Good

1. Niagaras Save power.
2. Niagaras shorten beating time.
3. One Niagara does the work of two and sometimes three Holland beaters.
4. Niagaras save tremendously in floor space.
5. The beating is more uniform.
6. The initial investment is lower.
7. Niagaras save on motors and belting.

FRENCH PAPER INDUSTRY HANDICAPPED

The year 1921 was an exceptional year as regards the lack of stability of paper quotations; the lowest point of depression was reached in June, when it was possible to buy news print at 90 francs per 100 kilos. This depression did not last, however, and in October prices gradually became firmer, advancing steadily at the end of December.

At the beginning of 1922, certain kinds of specially manufactured paper reached the high prices that obtained during the war. At that time, everybody was convinced that paper could not go down because of the market price of raw material. Some thought this ascending movement in prices was due to the fact that the large dailies of Paris and the provinces were being printed on six pages; others, that this was due to the marked resumption of advertising. But in our opinion one very important factor in the firmness of prices was the scarcity of water which was being felt not only in France but also in those countries that are heavy producers of paper pulps, such as Scandinavia, Germany and Canada.

Towards the end of February, manufacture was resumed in a general way in all paper factories, and a considerable effort was put forth by all manufacturers in order to have their machines turn out the largest quantity compatible with their speed and width.

High Expense for Water Power

We also have to point out the enormous expense borne by paper manufacturers with a view to utilizing water falls so as to free themselves from the necessity of importing coal from abroad and enable the mines, devastated by the enemy, again to turn out pre-war production. Even now, large works are being carried out on a fairly large area of French territory, and a year from now it is expected to put 2,000,000 H. P. in service. Paper mills in the Isère, Massif Central and Ariège, were pioneers in the matter of "white coal," and factories have expended for its utilization enormous sums in spite of the difficulties and crises the industry has had to go through periodically, and the lack of available funds.

Immediately after the war, American financiers having failed to find in Europe in general, and in France in particular, the field of action they expected, and having furthermore been disappointed in the result of several operations that were anything but brilliant, gradually gave up the idea of doing business on this side of the Atlantic. The various organizations created for the purpose of opening credits to industry ceased, therefore, to function.

The French banks, compelled by the general situation to call in outstanding funds, cut down credits by refusing to discount even the paper of individuals and concerns known as solvent, such as those in the paper industry.

If we take merely one out of several large banking establishments, the Credit Lyonnais for instance, we find that in 1921, debit current accounts representing credits in favor of their customers were brought down from Frs. 1,233,996,709 to Frs. 778,139,410, or a decrease of Frs. 455,857,299.

Paper Demand Less Active

Competition on the part of English merchants of old paper was active, by the beginning of March, a somewhat discouraging stagnation made itself felt. Even papers such as sulphite, in great demand during the preceding months, were as little asked for as the others. As prices for chemical and mechanical pulps had gone down, prices of paper followed the same movement.

Whereas towards the end of February, paper sales were very keen, and a group of dealers in old paper and rags approached the State Secretary to ask him to safeguard the interests of French dealers and protect them against English competition by levying an entrance duty on old papers from across the Channel.

At the beginning of April, we find the market still stationary and mills working normally for current consumption. Prices have not changed, but to obtain orders of importance, manufacturers often make concessions. Foreign, especially Belgian, competition, is fairly active and takes numerous orders away from French industry. The Italian mills which for some time had been obliged to reduce their output, on account of the scarcity of water, are submitting offers again.

A filtering paper mill, located at the frontier, offers good filtering paper at 260 francs per kilos, while the same paper, of French manufacture, is selling at 400 francs. Fortunately, the Customs tariff prevents its importation.

Exports are almost nil and English and American firms do not even reply to the offers that are made. Furthermore, several firms in the Paris district, who gave credit abroad, have never been able to receive what was owing to them.

Scandinavia sells at a loss and if it agrees to send news print at a lower price than that of French mills, it is solely because they do not wish to be compelled to shut down their factories.

A new competitor has appeared upon the scene, namely, Switzerland. For some time that little country has been sending news print in fairly large quantities. An examination of Customs statistics shows that for the first three months of 1922, Switzerland has sent us 20,602 metric quintals, against 9,562 for the corresponding period in 1921.

German Competition

French manufacturers are wondering where this paper comes from. Switzerland? Certainly not. By scratching the sheets, we shall certainly find in some corner the words "Made in Germany."

The Scandinavians offer their news paper at 106 francs per 100 kilos, delivered to the customer. They certainly cannot keep this system up for long, as they would soon be forced to close down their mills. News print on reels, of French origin, is quoted at 120 francs, and its good quality warrants the slight difference in price from that of the Scandinavian papers.

In the printing industry and paper converting, work is about normal, and in spite of the approaching vacations, orders are not lacking. They are not very large, it is true, but still work is kept up.

Imports of foreign paper are not inactive, and fairly important French houses have placed orders with Scandinavian factories, especially for kraft paper. Quotations for this kind of paper are getting steadily firmer, and the sudden ascending movement of the pound sterling still further accentuates this advance.

An Erroneous Impression

Importers state that at the present prices for pulp, French manufacturers are making a handsome profit and might decrease their prices, but this is not accurate, for at the present time labor is a most important factor in the matter of cost prices and prevents any decrease in the price of the manufactured product. In any case, the situation of the French paper mills is not as bad as some people would have us believe. Every machine is working and those that are inactive are so for other reasons than bad sales of paper.

Prices of paper are stationary; Scandinavian papers are advancing, and the exchange situation helping, it may be stated that all the imported kinds have advanced from 10 to 15 per cent.

Chemical and mechanical pulps are also firmer. The same firmness may be noted as regards old papers and rags. In connection with the latter, a few inquiries have been coming in from abroad, especially from America, but it would seem that the business done has been of slight importance on account of the prices offered by buyers.

The International Situation

The paper trade, like every other branch of industry, does not

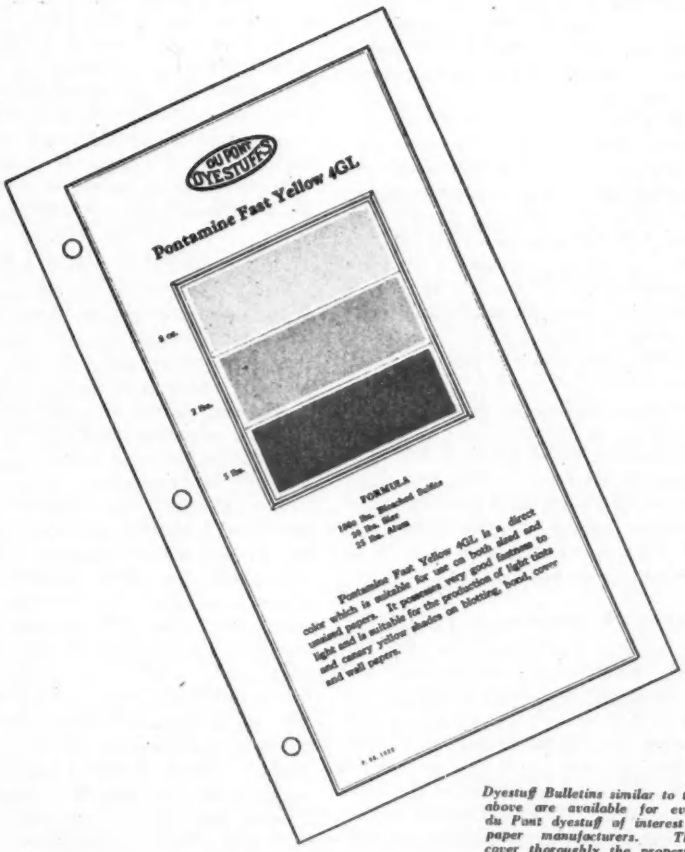
(*Continued on page 32*)

DU PONT

VAT ACID CHROME BASIC SULFUR DIRECT

DYESTUFFS

Technical Service to Dyestuffs Users



Dyestuff Bulletins similar to the above are available for every du Pont dyestuff of interest to paper manufacturers. They cover thoroughly the properties of the dye and instructions for its use. Write us for those covering colors in which you are interested.

E. I. DU PONT DE NEMOURS & CO., Inc.
WILMINGTON, DELAWARE

STANDARD DU PONT DYESTUFFS UNIFORM

FRENCH PAPER INDUSTRY HANDICAPPED

(*Continued from page* 30)

escape the consequences of the international situation, daily becoming more and more complex, the seriousness of which everybody appreciates.

It is said that important French firms, handicapped by the war that is being waged on them by the press, and in order to cover the losses suffered last year, have approached foreign capitalists for the purpose of obtaining money, in view of the impossibility of finding credit in France. The press has made much ado about this and points out that if, in the paper industry, foreign capital takes place of French money, the consequences will be disastrous for all concerned.

Prices Firmer in Europe

At the beginning of August, prices for paper became firmer on every market in Europe. The "Wochenblatt für Papierfabrikation" writes that in Germany, every kind of paper and cardboard has advanced about 40 per cent. From Sweden, Norway, Canada and Austria the same information is received. The English market alone is stationary, and it would seem that prices, except for straw cardboard, have a tendency to go down still further.

News from countries that are great producers of pulps and papers naturally influences the French market, and manufacturers show greater firmness in their transactions. Thus, certain kinds, grey cardboard, kraft, etc., have already advanced 5 to 10 francs per 100 kilos, and the advance will certainly not stop there. On the other hand, Scandinavian sellers not only refuse to quote in francs any longer, but demand from 2 to 3 months for the delivery of orders.

The main reason for this advance is to be found in the lack of stocks. The motto of French buyers during the months just passed has been: "No buying in a period of falling prices."

Generally speaking, mills have orders, and several are handicapped by a lack of specialists.

The obtaining of supplies of raw materials, especially wood pulps and mechanical and chemical pulps, is becoming daily more difficult. Rags, neglected for long months, are at present a little more in demand, but prices have remained almost stationary. Old papers are advancing, chiefly on account of the exchange situation, which makes the obtaining of supplies in England extremely difficult. It is true that Englishmen, in order to maintain their position on our market, are making sacrifices, but there is a limit to all things.

Paper Imports Increasing

Paper imports are still constantly increasing. For the first months of 1922, for paper under 30 grammes per square meter, they reached a total of 68,606 tons as compared with 37,346 for the same period in 1921. The most disconcerting fact about it is that almost all paper importing countries, with the exception of Germany, Finland and Czecho-Slovakia, have a very high rate of exchange. We are in a state of expectancy on account of the question of raising Custom duties on pulps, which we have already referred to above. The decree has not yet been signed by the State Secretary for Foreign Affairs, and we do not know whether it will be. Those in favor of its signature are bringing great pressure to bear in order to hasten the solution of the problem. Those who are not are marshalling all their influence to prevent the measure being carried through.

America and England buy in France great quantities of rags, and an important firm on the other side of the Atlantic has asked a commission house here whether it could supply 1,000 tons of rags a week. Exports are a little more active. Unfortunately, we have to suffer from the competition of countries better placed than we are from the point of view of supply of pulps or from the point of view of freight.

In the early days of October, the French paper trade world was thrown into commotion by the application of the co-efficient of 3 to cellulose pulps; as always, in this application there was great injustice, as pulps for the manufacture of paper for the press and publishing business have suffered no increase.

Several mills have announced an advance of 10 per cent and this has somewhat slowed down business, for buyers are wondering whether it will not be advisable to wait a little, rather than stock up at present prices. The pound sterling is at 60 francs and the Norwegian crown follows suit. Import Scandinavian papers have gone up through the mechanism of exchange—about 10 per cent. The difference of prices between various mills is very marked. Thus, in Paris, straw paper is selling at 70 francs per 100 kilos, and grey cardboard also at 70 frs., while certain Northern mills are selling these same kinds at 60 and 63 respectively.

England is hardly sending us any old papers at all, and Americans, on account of the advance of the dollar, do not hesitate to go to France and scoop up all the rags available. Paper, therefore, is advancing and we do not know when it will stop. Offers from abroad are very limited and news paper has reached a higher price than that of French mills. Three months ago, the Scandinavians were still offering us news paper on spools at 98 frs. per 100 kilos, C. I. F. Rouen. At present, they quote 130.

In conclusion we may say that the year 1922 has not been a bad one for French paper manufacturers.

"Wonder Paper" Made in Belgium

Fred C. Strype, 320 Broadway, New York, sale representative of the so-called "Wonder Paper" the new tympan that has been introduced in the press room of the *Farm Journal* of Philadelphia and several other large printers writes that the PAPER TRADE JOURNAL was in error in stating that this paper is manufactured in Germany, but that is is made in Belguim.

In this connection the PAPER TRADE JOURNAL has been requested to print the following letter from Lafayette Cates of the press rooms of the *Farm Journal* to Mr. Strype:

"The Imperial Treated Vellum Offset Tympan Paper which we have received through your representative, and which I christened the "Wonder Paper" because it did and is doing such wonderful work, more than fulfills its early promises with us. Before we started using your paper we never dreamed that such wonderful results could possibly be obtained and I want to say I have never seen any paper imported or domestic equal it for the work intended.

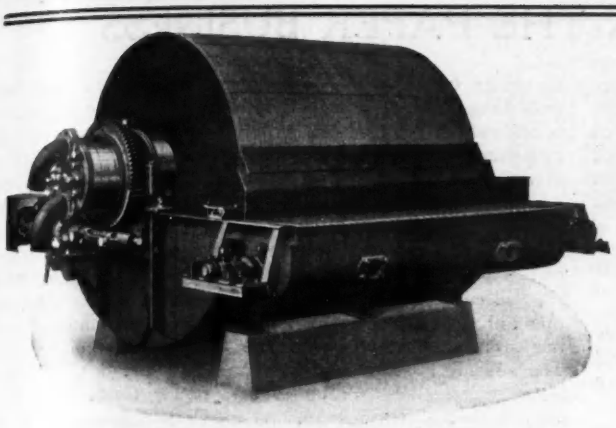
"We realize the long felt want that it has fulfilled, and the great help and saving it will be in all printing plants. I appreciate the fact that you have agreed to fully co-operate with the entire printing industry in every way, by continuously producing this quality paper and extending the field in which Imperial Offset Tympan Paper can be economically used, and I feel certain you will receive their hearty co-operation.

"I want to thank you for letting me know just where the paper was made as Belgium has always seemed to me to be a country which produces quality products."

Ask for Supplemental Report on Dumping

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., May 2, 1923.—Officials of the Customs Service who have been looking into the alleged dumping of kraft paper from Norway have asked the examiner at the port of New York for a supplemental report on the alleged dumping. This means, of course, that the Washington officials are not entirely satisfied with the evidence which was presented to them. The examiner has been asked to expedite his supplemental report.



Oliver Continuous Filter with repulper.

How the OLIVER washes brown stock

Oliver Continuous Filters wash brown stock evenly, quickly and thoroughly, with a minimum loss of soda and a minimum use of hot water.

The sectionalized filtering drum revolves partially submerged in a receiving tank filled with brown stock fresh from the digestors.

Vacuum steadily removes the black liquor, causing a thin sheet of pulp to form over the submerged sections of the drum.

As this thin cake emerges from the tank it is first sprayed with weak liquor which displaces the strong liquor. The weak liquor is displaced in turn by hot wash water. Strong and weak solutions are automatically segregated and a clean cake is delivered at a uniform rate.

The following important economies soon pay the entire cost of an installation of Olivers:

1. Washroom labor is decreased 60%.
2. Soda losses are decreased 75%.
3. Pulp losses are entirely eliminated.
4. Floor space is reduced 75%.
5. Pulp is washed with 1/3 less wash water.
6. Black liquor returned to the digestors with 1/3 less dilution.
7. Accurate pulp samples readily obtainable.

Write us for complete information on use of Olivers in reducing washroom costs.

Oliver *Continuous* Filter Co.

San Francisco
503 Market St.

New York
33 W. 42nd St.

London
11-13 Southampton Row, W. C.

MAKING A MARK IN THE PAPER BUSINESS

The purchase of the Uncas Mill in Norwich, Conn., recently by J. E. Smith of Baltimore, places Mr. Smith in control of three mills, two of which are devoted exclusively to board and the third exclusively to wall paper. In addition, Mr. Smith is president and owns controlling interest in The J. E. Smith Company, a paper box business in his home town—Baltimore.

Owns Three Mills and Box Business

To control three big mills, and a box business in addition, is some accomplishment, to say the least, in consideration of the fact that Mr. Smith has just recently passed the 40-year milestone in life and began business in the cellar of his mother's house in Baltimore, at the age of 17 years with a capital of exactly $644 which, by the way, represented money he had saved from the earnings of the still earlier years of his life, he having left school at the age of 14 to go to work in a box factory in Baltimore. At the time Mr. Smith opened up a box factory of his own in the cellar of his home, the few hundred dollars he possessed looked like a fortune to him; he naturally had to proceed cautiously and economize in every way imaginable and it is perhaps needless to say that he prospered from that day in October, 1900, when he cut and scored his first order for boxes.

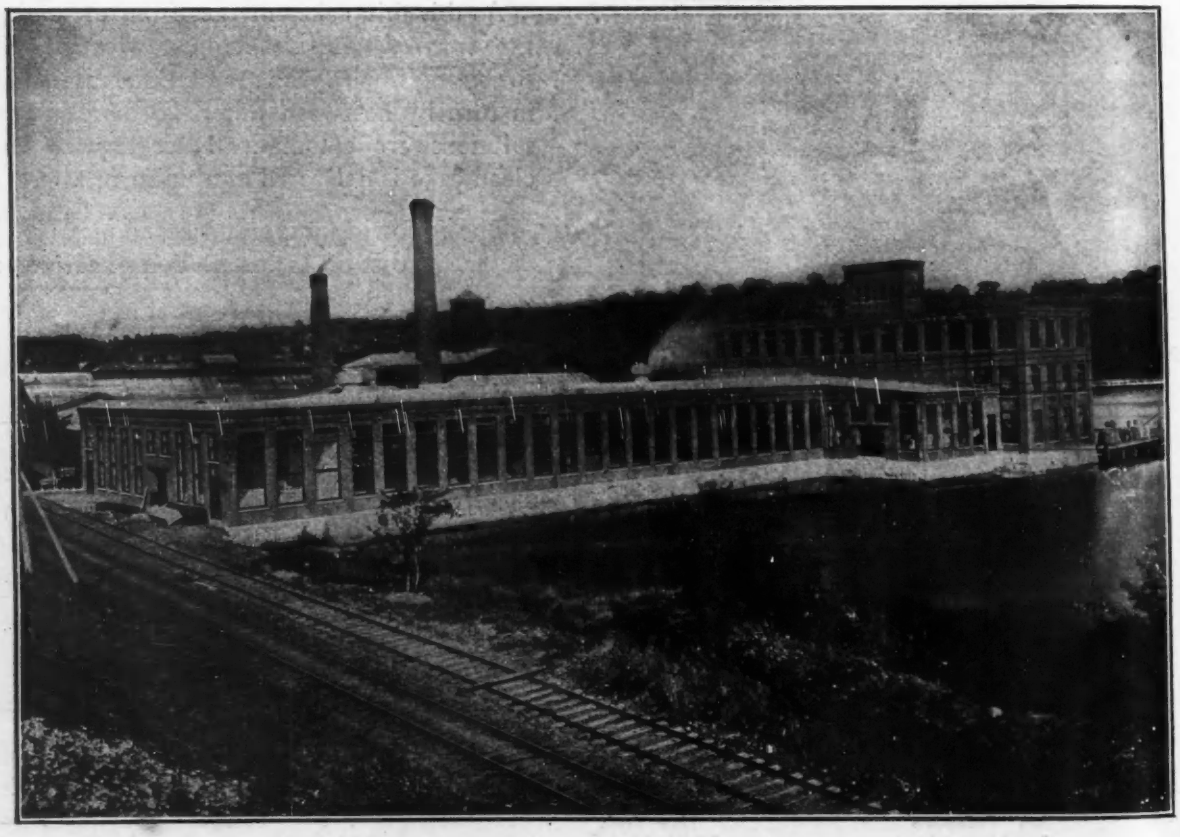
Purchased First Mill Decade Ago

Mr. Smith never outgrew the idea of saving something, no matter how little his earnings may have been, and exactly 10 years ago he, with three other men, incorporated the Chesapeake Paper Board Company, purchased machinery, installed same, and started the mill in Baltimore, which has since been considerably enlarged and improved and Mr. Smith's interest in the mill also materially enhanced, he being President and owning controlling interest in the plant and business. The only thing that remains of the Chesapeake plant as it originally stood is 49 dryers and recent improvement in the equipment of this plant includes the addition of 36 dryers, making 85 in all, and entire new frames, new press part, six new vats, suction roll, new calendars, new drivers, and new cutter. Other improvements include a complete Sturtevant Drying System. The building housing this machine is 60 x 262 feet. The new installation includes an up to date power plant, water tube boilers, Farnsworth System, and an electric generating plant. The entire mill is electrically driven by directly connected motors. Daily capacity of the Chesapeake Mill is 50 tons.

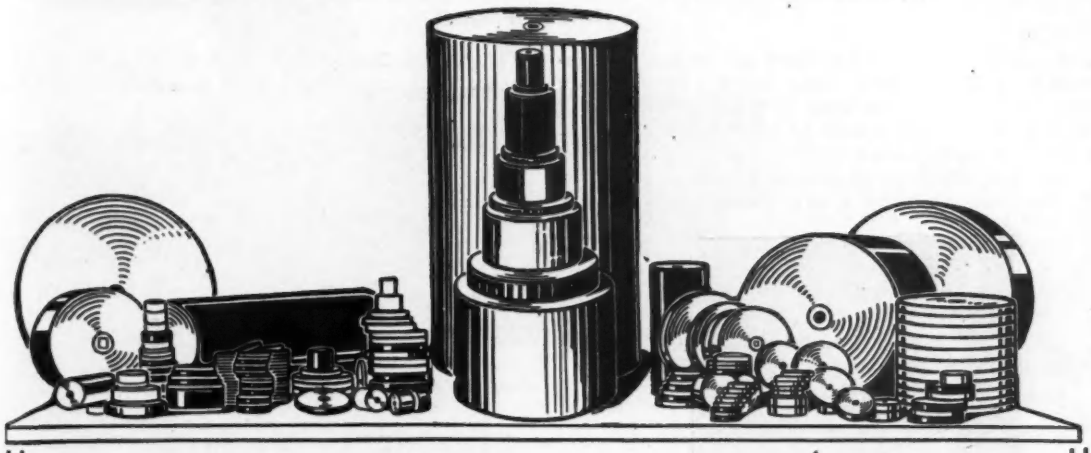
Purchased Wall Paper Plant

The second mill property purchased by Mr. Smith is devoted exclusively to the manufacturer of all paper, it being known as the Marley Mill, located at Childs, Ind., formerly owned by The C. S. Garrett Sons Co. After its acquisition by Mr. Smith he incorporated the Marley Paper Manufacturing Co., of which he is President and owns practically all of the stock.

(*Continued on page* 35)



PLANT OF UNCAS PAPER BOARD CO., NORWICH, CONN.



PAPER SALESMEN SAY:

"It is often easier on the voice to sell good rolls of not so good paper than not so good rolls of good paper."

PAPER MAKERS SAY:

"It is always easier on the temper to make good shipping rolls out of a not so good reel on a good Roll-Winder than not so good rolls out of a good reel on a poor Winder."

CAMERON WINDER USERS SAY:

"Cameron Machines turn out good rolls from good paper and as good rolls from paper not so good."

PAPER CONSUMERS SAY:

"ROLL, CAMERON, ROLL!"

NOTE:

Cameron Machine Co. makes its good roll-winders at Brooklyn, New York. Office address, 61 Poplar Street.

MAKING A MARK IN THE PAPER BUSINESS

(*Continued from page 34*)

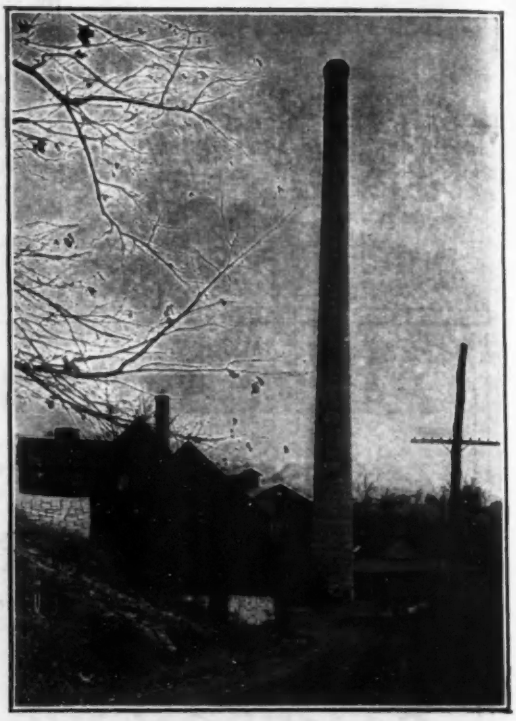
Its capacity is 50 tons daily. The equipment in this plant includes two 96" machines, one of which has been installed since the plant came into the possession of present owner. The entire product of this mill is sold by H. G. Craig & Co., 52 Vanderbilt avenue, New York City.

The latest and largest acquisition now controlled by Mr. Smith is the Uncas Mill at Norwich, Conn., which property

J. E. Smith

was for a time known as the Ironsides Board Mill. This business is incorporated for $1,500,000, the officers being J. E. Smith, president; Alvah Miller, vice-president; Arthur C. Hastings, treasurer; Frank W. Browning, secretary.

The Uncas Mill property includes 15 acres of ground, 14 tenant houses, including a large house for the superintendent

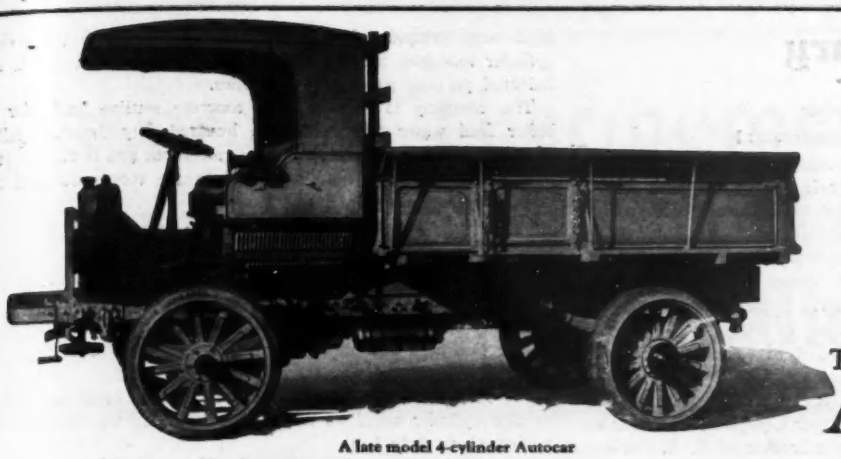


Marley Paper Co., Childs, Md.

and manager of the mill, which would cost upwards of $15,000 to build. The official title of the corporation is The Uncas Paperboard Company and its properties include three paper

(*Continued on page 38*)

Chesapeake Paperboard Co., Baltimore, Md.



A late model 4-cylinder Autocar

The sturdy
Autocar
Wherever there's a road

"The Sturdy Autocar" Endorses Edge Moor

THE Autocar Company, pioneer maker of motor trucks, has a 500 H. P. Edge Moor in its big plant at Ardmore, Pa. A recent letter from the Autocar Company says:

"This boiler has been installed for several years, and is giving very satisfactory service.

"We operate with a furnace temperature of 2400° F., a temperature at top of first pass of 950° F., and a stack temperature of 425° F., when carrying 125% of rating at 150 lbs. pressure.

"As the main purpose of a boiler is to absorb the heat from the fuel, you can readily see from the above temperatures that this Edge Moor Boiler is acting in a way to confirm the confidence we had in it at the time we made the purchase."

Edge Moor Water Tube Boilers are designed and built to meet the conditions imposed upon modern power plants.

The Edge Moor catalogue explains the important advantages of this boiler that have won for it the preference of industrial leaders. Your request will bring a copy promptly.

EDGE MOOR IRON COMPANY
Established 1868
EDGE MOOR, DELAWARE
New York Chicago St. Paul Boston Pittsburgh Charlotte

500 H. P. Edge Moor Boiler with Detroit stoker in the Autocar plant at Ardmore.

EDGE MOOR BOILERS
EDGE MOOR, DEL. U.S.A.

EDGE MOOR Water Tube BOILERS

FOR INCREASED FUEL ECONOMY

Obituary

Walter I. Parker

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, May 1, 1923.—The many friends in the paper, printing and stationery trade of Walter I. Parker late with Riegel & Co., Sixth below Arch street, Philadelphia, learned with regret during the week of his death at the Philadelphia Hospital for the insane into which he was admitted two weeks ago for observation. Mr. Parker had been complaining of severe illness for the past month, but only in mid-April was removal to the institution found necessary. He had been on the sales force of Riegel & Co. for the last four years and he had among his list of customers many of the largest printers, publishers and manufacturing stationers of the city. Before becoming connected with Riegel & Co., he served on the sales organization of the Whiting Paper Company, The Charles H. Elliot Company and Dreka. He is a brother of E. E. Parker, who is connected with the Wm. F. Murphy's Sons Company. Mr. Parker is survived by a widow.

MAKING A MARK IN THE PAPER BUSINESS

(*Continuel from page 36*)

board manufacturing machines, No. 1 being 120-inch trim, No. 2, 112-inch and the No. 3, 72-inch trim. While some chip and news board will be manufactured, special attention will be given to the manufacture of high grade folding box boards, single, double and solid manilas, white patent coated, and numbers 4 and 5 high finished news boards. The capacity of this mill is 200 tons daily.

Raw stock can be received and finished product shipped by either railroad or boat inasmuch as the mill's property is located between the Thames river and railroad tracks of the Central of Vermont R. R., the dock frontage being about 1,000 feet on the Thames river.

The mill is operated entirely by oil burning boilers, there being three fuel oil tanks on the premises, one holding 12,000 barrels, another 6,000 and a third 3,000 barrels, or a total of 845,000 gallons of oil. The equipment includes 15 boilers and the power of the plant is equivalent to about 3,500 horse power.

J. H. Eilers Managers Mill

The manager of the Uncas is Joseph H. Eilers, who is well known in the paper box and paper board making industry.

Craig & Co. Sells Output

The output of the Uncas Mill will be marketed through H. G. Craig & Co., 52 Vanderbilt avenue, New York City.

Kieffer Paper Mills Increase Wages

EWING, Ind., April 30, 1923.—The Kieffer Paper Mills on April 16 increased the wages of their fifty employees approximately eleven per cent. The company convinced its employees that living conditions were not any higher now than six months or a year ago and got their endorsement and consent to let the company place ten per cent of their wages in individual saving accounts with a local Trust Company. These accounts draw four per cent interest from date of deposit. A number of the employees signified their intention of placing in the Trust Company additional sums each pay day besides the ten per cent. The company appreciates the fact that a large share of its success is due to the loyalty of its employees. Every employee is an American born citizen and approximately forty-five per cent of the married men own their own homes, and about fifteen per cent have heretofore been having a bank balance.

The present owners bought the mill in 1908 when it had a five tons production of rag paper and the buildings and machinery were in a very delapidated condition. Today they have three single cylinder machines making their tons per day of light weight chip indented packing paper and specialties.

The company is putting in a concrete settling basin for the boiler feed water that holds two hundred fifty thousand gallons of water. It also is enlarging its engine room and is making other improvements all the time that tend to the economical and convenient operation of the plant.

Charleston Paper Mfg. Co. Starts

The Charleston Paper Manufacturing Company, with mills at Nitro, W. Va., started making paper about three weeks ago.

This company was organized last August, and imediately began the erection of a new mill for the manufacture of both paper and board.

One 92 inch Fourdrinier machine is now in operation, and an 80 inch cylinder machine, now being installed, will go into production about July 1.

The mill is ideally situated on the Kanawha River, having facilities for shipping over three railroads.

The company draws its coal from mines located three miles below the mill.

The main building is of solid, reinforced concrete, 578 feet long.

The Fourdrinier machine is able to produce about twenty-five tons of paper a day, and the cylinder machine, when completed, will turn out between forty and fifty tons of box board a day.

The M. L. Macauley Company, Inc., 30 East 42nd street, New York City, is selling agent of the entire product.

The Oldest Tree in Maine

BANGOR, Me., May 1, 1923.—One of the several interesting features in the May issue of The Northern, the monthly publication of the Social Service division of the Great Northern Paper Company, is a full page cut of a cross section of one of the oldest trees in Maine, a red spruce in the vicinity of Mount Katahdin. The age of the tree is estimated at 367 years and the different sections of growth are marked with the corresponding event in American history. According to the growth as marked, the tree had taken a firm stand at the time of the landing of the Pilgrims in 1620 and other notations along with its increase in girth are: first sawmill in America, 1631; first paper mill in America, 1699; declaration of Independence, 1776; capture of Bangor by British, 1814; first wood pulp in U. S. made in Norway, Me., 1854; Battle of Gettysburg, 1863; Great Northern Paper Company, incorporated 1898.

The tree was cut on the east side of Mount Katahdin, a quarter mile east of Basin ponds. It is said that a similar growth on the flat would have been made in 165 years.

To Head Warner & Childs Co.

MEDFORD, Mass., April 30, 1923.—R. M. Taylor, formerly general purchasing agent for the Hinde & Dauch Paper Company has been elected president and treasurer of the Warner & Childs Company, manufacturers of corrugated boxes.

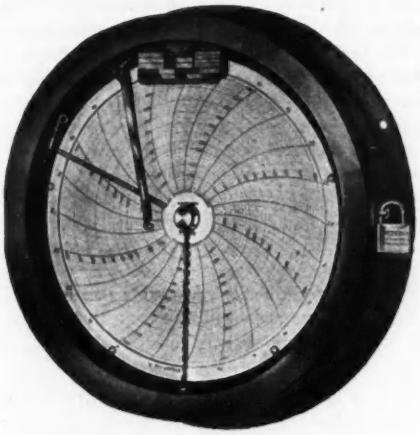
The company is capitalized at $1,250,000, all stock issued and outstanding. About two years ago the company moved into its new factory building which is considered one of the finest and best equipped corrugated paper factories in the country.

Associated with Mr. Taylor will be the founder of the company, Asa F. Warner, as chairman of the board and N. K. Morton, vice-president, who has been with the organization for 15 years. The plant in which 160 are employed, is now running to capacity and has four weeks orders ahead.

To Be Superintendent of Menasha Carton Co.

MENASHA, Wis., April 30, 1923.—Mr. John F. Hardt has been appointed superintendent of the Menasha Printing and Carton Company, succeeding Earl Sharpless.

Recording Thermometers On Your Bleachers Save Time and Safeguard Quality



FOXBORO
Recording Thermometer

Among the many important constructional advantages of the Foxboro Recorder are the compact, round case with spring hasp, inverted pen arm with micrometer adjustment, improved helical tube movement, three point support clock movement and automatic self-centering chart holder.

These, with Foxboro workmanship and methods of testing, make for added dependability and convenience in service.

Accurate, continuous records of stock temperature in the bleachers enable the operator to produce stock of uniform quality and strength without loss of time or danger of excessive chlorination.

Foxboro Recording Thermometers for pulp bleaching plants combine scientific accuracy and strength to withstand years of severe service.

Pulp and paper mill men everywhere recognize the Foxboro Recorder as "The Compass of Industry."

The unfailing dependability of its records is your surest protection against losses from improper or inefficient bleaching.

Write for Bulletin BH-104-1

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New York Chicago Boston Tulsa Cleveland
Pittsburgh Philadelphia San Francisco Birmingham
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Montreal, Canada

FOXBORO
TRADE MARK
THE COMPASS OF INDUSTRY

5245

New York Trade Jottings

George D. Bearce, of the News Print Service Bureau, will start on a three weeks' tour of the mills in the Middle West this week.

* * *

Blake, Moffitt & Towne have removed their New York office to Room 1724 on the seventeenth floor of the Pershing Square Building, 111 Park avenue.

* * *

The creditors of the Wynne Paper Company met today, Thursday, May 3, at the office of the corporation, Thirty-ninth street and Second avenue, Brooklyn.

* * *

The Diamond State Fibre Company has combined its paper and fiber departments into a district office and warehouse located at 423 Broome street. Telephone, Canal, 6220-6221.

* * *

The News Print Service Bureau recently received a handsome wash drawing of the Abitibi Pulp and Paper mills. It shows every part of the plant from the water power to the town which has sprung up since the mills were built.

* * *

The Arabol Manufacturing Company, because of the constantly increasing demand for its products, has removed to larger quarters on the tenth floor of the new Bowery Savings Bank Building, 110 East Forty-second street.

* * *

Friends of R. S. Kellogg, secretary of the News Print Service Bureau, are congratulating him upon the purchase of a new residence in Yonkers. His address will be 18 Bayley avenue, Yonkers, instead of 464 Hawthorne avenue, as formerly.

* * *

Frank F. Miller, president of the Miller Paper Company, Syracuse, N. Y., was a recent trade visitor in New York city. This concern has expanded wonderfully during the past few years and now employs ten traveling salesmen, who cover all of Central New York State.

* * *

Announcement is made by the Pejepscot Paper Company that Harold E. Blackman has been elected assistant treasurer of the company to fill the vacancy caused by the resignation of George L. Henderson, who leaves next week to become treasurer, vice-president and a director of the Rye (N. Y.) Trust Company. Howard M. Smith, of New York, has been elected secretary of the company, succeeding Mr. Henderson, who held two offices in the company. Mr. Smith will have his offices in New York. R. A. Klendienst has been elected assistant secretary, with an office in New York.

* * *

The M. Schlanger Company, whose headquarters were at 220 Fifth avenue, selling mainly paper and paper specialties to the paper jobbers and wholesale confectioners, has merged its business with the Friedland Paper Company, Inc., paper converter, selling all grades of wrappings and news print to jobbers. The new concern, which is a closed corporation with capital stock of $60,000 paid in, will do business under the name of the Freedom Paper Company, Inc., and will occupy its own building at 121 Sullivan street. The officers of the company are: M. Schlanger, president; H. Lostfogel, secretary; B. Friedland, treasurer; L. Friedland, first vice-president; S. Friedland, second vice-president.

Germany Wants Paper Duty Lowered

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., May 2, 1923.—In a recent issue of the *Berliner Tageblatt* it is stated that the Economic Committee of the Reich Council of Economics recently had under consideration an application from the associations of the paper industry for the abolition of the surcharge on the gold duty for cellulose, paper, and cardboard of foreign origin. The world market prices for cellulose c. i. f. German ports are about 8-10 per cent below the German prices and in the case of certain kinds of paper up to 50 per cent lower. Cardboard prices are proportionately lower. A crisis has thus occurred in the industry which has already led to restriction of work and unemployment.

After a short discussion the Committee adopted the following resolution: "The Government of the Reich is requested to consider whether, in view of the extended occupation of Germany and the consequent threatening of the supply of the German market, the import duty for cellulose, paper, and cardboard be temporarily reduced by one-half of the customs rates."

Favorable action by the Reich is expected to effect a reduction in prices, since wages, according to a representative of the cellulose industry form only 6 per cent of sale prices.

Paper Trade Slow in Czecho-Slovakia

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 2, 1923.—Trade Commissioner Groves at Prague has sent the following report to the Paper Division of the Department of Commerce on the paper and pulp situation in Czecho-Slovakia:

"Paper factories in western Bohemia have recently received some new business, but are still reported operating on a scale not exceeding 50 per cent. Prices of several qualities of paper are still reported above world's market prices, and operating costs are still not in line with the readjustment demanded by the high Czecho-Slovak exchange. In Slovakia most of the paper mills are reported closed and the industry is virtually at a standstill. The cellulose producers are in a more favorable position, and are operating on export orders sufficient to keep them busy for some weeks."

Alger Box Co. Burned

[FROM OUR REGULAR CORRESPONDENT.]

GARDINER, Me., May 1, 1923.—The plant of the Alger Box Company on Summer street in this city was destroyed by fire last week, with a loss of $100,000 partially covered by insurance. Starting in a rear storehouse, the blaze spread so rapidly that by the time the fire department arrived, all that could be done was to confine the flames to the Alger plant.

The local plant has been in operation about 15 years, the main plant of the company being located in Middleboro, Mass. There were 50 employees in the Gardiner factory, which produced paper boxes, principally shoe boxes, and the mill was equipped with the latest machinery. It is expected that the plant will be rebuilt or that a new one will be purchased in this vicinity.

Pulpwood Boom Breaks in Connecticut

HOLYOKE, Mass., May 2, 1923.—The Connecticut River was filled with pulpwood from Turners Falls south, Monday of this week, when 4,000 cords of pulpwood valued at $100,000 that had broken through a boom in the Queechee River in Vermont charged down on the Turners Falls dam, broke over the flashboards and surged down the stream on its way to the Sound. Some of the pulpwood was recovered. The owners offered $4 a cord for all recovered. The water rose swiftly in the river at Holyoke following the two and a half inches of rainfall Saturday and Sunday and was running about eight and a half feet over the dam the first of the week.

Essex Paper Co. to Be Dissolved

HOLYOKE, Mass., May 2, 1923.—The Essex Pad and Paper Company which recently sold out to the Clearys has petitioned the Hampden County Superior Court that the corporation be dissolved. The Essex Company was incorporated April 17, 1917, with a capital stock of $32,000.

Established 1886

Service

Words, someone said, are used to conceal meaning. Perhaps that is why so many people use the word "Service." No word has suffered greater abuse. Service can mean much, or little, or nothing.

With this organization, service for thirty-seven years has meant everything, without reservations, mild or otherwise. Ours is always service plus, never minus. We protect our own interests by being so jealous of the interests of our clients.

M. GOTTESMAN & COMPANY

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New York, N. Y.
U. S. A.

European Offices:
Stureplan 13,
Stockholm, Sweden

Recent Incorporations

H. P. R. Paper Box Company, Manhattan, New York. Capital, $6,000. Incorporators: S. G. Herman, M. Pionsky, M. Ray. Attorney, S. Orr, 365 Broadway.

Old Colony Pulp and Lumber Corporation, New York. Incorporated in Delaware. Timber lands. Capital, $600,000. Registrar and Transfer Company.

New Service Corporation, manufacture paper containers. Capital $1,000. Incorporators: Miles Shevlin, Wm. R. Hauze, Howard B. Hauze, Chicago. Capital Trust Company of Delaware.

The Seybold Paper Company, Cincinnati, Ohio. Capital $20,000. Incorporator, Harvey Seybold.

Toronto Paper Mills, Wilmington, Deleware, manufacture paper, paper board. Capital $200,000. Corporation Trust Company of America.

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT.]

Washington, D. C., May 2, 1923.—The purchasing officer of the Government Printing Office has received the following bids:

8,000 pounds Crane's Jap. envelopes, OSG, 3½ x 6—No. 24, Barton, Duer & Koch Paper Company, at $4.90 per M.; R. Carter Ballantyne, $4.10.

78,000 pounds 24 x 38—No. 16, Yellow H. M. F. writing paper: R. P. Andrews Paper Company, $.0914 per pound; The Aetna Paper Company, $.1043; The Broderick Paper Company, $.094; Maurice O'Meara Company, $.1121; Old Dominion Paper Company, $.0947; The Whitaker Paper Company, $.105; The Champion Fibre Company, $.0997; Allied Paper Mills, $.09; and Reese & Reese, $.10315.

25,000 9 x 12—sulphite manila envelopes: U. S. Envelope Company, at $11.65 per M; Keystone Envelope Company, $42.95; Mathers-Lamm Paper Company, $12.00; International Tag Company, $12.84; R. P. Andrews Paper Company, $15.85; Reese & Reese, $16.60; Sherman Envelope Company, $16.59; The Broderick Paper Company, $15.90.

The Government Printing Office will receive bids on May 9 for 45,900 pounds (450 reams) of 21 x 31—102, buff and melon flat bristol board. Bids will be opened at the same time at the Printing Office for 60,000 pounds of melon bristol board in 20 inch rolls.

The Government Printing Office will receive bids on May 7 for 36,000 pounds of Manila board in 21¾ inch rolls. Bids will also be received on the same date for 36,500 pounds (18,780 sheets) of various sizes, best quality, binders' board.

The Government Printing Office will receive bids on May 7 for 35,000 pounds of calendered manila tag board in 24 inch and 26¾ inch rolls.

The purchasing officer of the Government Printing Office will receive bids on May 2 for 500,000 pounds of white news print paper in 48 inch rolls. Bids will be received on the same date for 800 pounds (100 reams) of 20 x 30—8 white tissue paper.

The Old Dominion Paper Company has been awarded the contract for furnishing the Bureau of Supplies and Accounts, Navy Department, with 1,000 reams of 8 x 13 inch white laid absorbent mimeograph paper at $479.40, bids for which were opened on April 10.

Wilkinson Bros. & Co. have been awarded the contract for furnishing 1,633 reams of 8 x 13—5½ white laid absorbent mimeograph paper at $808.34, bids for which were opened on April 10.

The Broderick Paper Company has been awarded the contract for furnishing the Government Printing Office with 20,800 pounds (200 reams) of India tint and light green, 26½ x 41—104 coated cover paper at $.09967 per pound, bids for which were opened on April 9.

Wilkinson Bros. & Co. will furnish 40,000 pounds of high finish sulphite manila paper in 18 inch rolls at $.06345 per pound and Reese & Reese will furnish 50,000 pounds (50,000 sheets) of 26 x 35—No. 50, chipboard at $.02779 per pound. Bids for these two items were opened on April 11. The Allied Paper Mills will furnish 78,000 pounds (2,000 reams) of 24 x 38—No. 16 high M. F. yellow writing paper at $.09 per pound, bids for which were opened on April 23.

Paper Men Want Big National Forests

"Only as we have assured continuous forest production through co-operation between the Federal government, the States and private individuals, can we be assured of the permanency of the great wood using industries of the country. That is why the paper industry is represented in the effort to secure an extension of purchases of land for the national forests under the Week's Law."

This was the statement made by Milton I. Marcuse, of Richmond, Va., representing the American Paper and Pulp Association when a committee of paper manufacturers joined with others interested in forestry development urging a return to the annual appropriations for land purchases in vogue before the war. The committee also included Henry W. Stokes, president of the American Paper and Pulp Association, T. W. Ross, of the Hummel-Ross Fibre Corporation of Hopewell, Va., and Milwaukee, Wis.

"If our wood-using industries are to be assured of an adequate supply of reasonably priced lumber and wood," said Mr. Marcuse, "the Federal government and the States must assist not only in fire prevention, but in the purchase of land on the headwaters of streams where forests may be grown and in the reforestation of those lands. We urge the following reasons for government ownership of forest land:

"It will assure at least a portion of the future supply of timber for the nation.

"It provides opportunities for demonstration of practical methods of forest fire prevention, sustained yield logging, brush disposal, insect and fungi control and reforestation.

"It protects watersheds at the headwaters of navigable streams thus insuring a relatively uniform flowage throughout the year and directly and indirectly helps to prevent disastrous floods.

"It insures continual and increasing revenues to counties, States and the Federal government itself, as the policy of adequate forest protection and wise forest use become more general.

"It provides natural game refuges where the nation's wild life resources are protected and propagated.

"It affords unequaled facilities for health and recreational opportunities."

"Fifty Years of Paper Making"

In style, material and make-up "Fifty Years of Paper Making," a book recently issued by the Warren Manufacturing Company to commemorate its fiftieth anniversary, is more than attractive. To the paper man it will prove interesting. To the uninitiated in the mysteries of paper manufacture it will have all of the charm of an undiscovered territory.

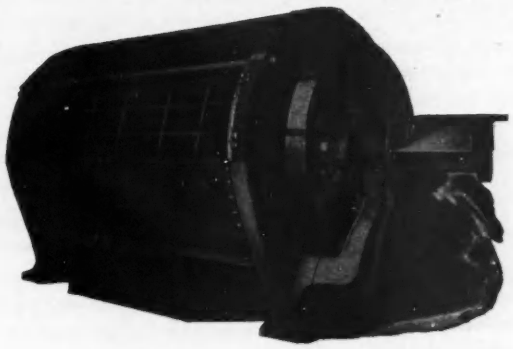
No expense has been spared to make the book the best possible from the artistic standpoint. Its illustrations are of the highest grade and well chosen for a work of this kind. The frontispiece, a full page photograph of the raceway at Warren, is not only photographically excellent, but, together with picture of the waters impounded behind the Warren dam, it tells its own story of the tremendous energy that is perpetually on tap for the Warren mills.

The text tells the story of the early struggle of John L. Riegel and his two sons, Benjamin and John, to establish a mill the products of which would be second to none. It carries the tale along from the humble beginning of the company through various business vicissitudes until at last it reached its present success. Simply related, it is an Odyssey of toil and achievement.

"IMPCO" TAILING SCREENER

FOR SCREENING GROUND WOOD TAILINGS

Very Low Power and Upkeep Expense



Delivers Rejections Free from Good Stock

ANOTHER UNIT OF OUR CLOSED SYSTEM FOR PULP SCREENING

WRITE FOR FULL DETAILS *CORRESPONDENCE A PLEASURE*

IMPROVED PAPER MACHINERY CO. **Nashua, N. H.**

SHERBROOKE MACHINERY CO., LIMITED, SHERBROOKE, CANADA

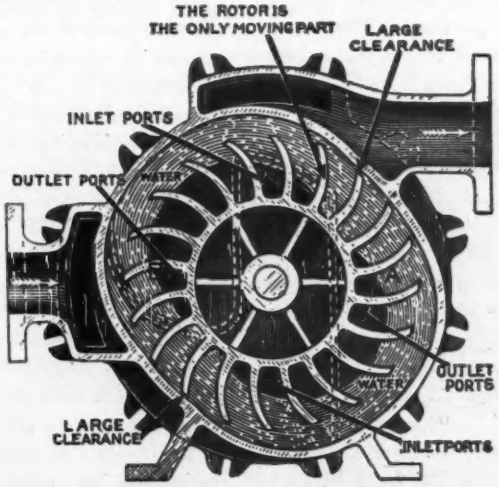
THE HYTOR VACUUM PUMP

FOR FLAT BOX SERVICE

Vacuum Produced Absolutely Without Pulsation

No Vibration

Saves Wires



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No Rods, Pistons, Crank Shafts Loose Moving Parts and No Gears

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Boston, Mass.

Editorial

Vol. LXXVI New York, May 3, 1923 No. 18

HENRY J. BERGER, Editor

FOREIGN PAPER TRADE CONTINUES SLOW

The export trade in paper is showing no improvement according to the statistics which have just been issued by the Department of Commerce for February and which are the most recent figures available. The total exports for that month in fact were only $1,955,557, which was slightly less than for January when the figures amounted to $1,961,541, but was a considerable improvement over the February of last year when the figures were only $1,485,681. The export of all varities of paper for the eight months ending with February were valued at $16,235,096 as compared with $12,137,095 for the same period in 1922.

Although the exports of paper as a whole declined the exports of news print showed a slight increase, the figures for February being $121,405 as against $119,569 for January and $75,724 for February of last year. The exports of news print for the eight months ending with January were valued at $1,245,084 as compared with $1,002,769 for the same period in the preceding year.

The exports of wrapping paper for February amounted to $173,181 as compared with $188,002 for January and $171,848 for February of last year. The exports of wrapping paper for the eight months ending with February were valued at $1,418,669.

The exports of writing paper except papeteries for February amounted to $80,204 as compared with $96,058 for January and $62,049 for February of last year. The exports of writing paper except papeteries for the eight months ending with February were valued at $745,035.

The exports of surface coated paper for February were valued at $42,448 as compared with $62,350 for January and $36,474 for February of last year. The exports of surface coated paper for the eight months ending with February amounted to $355,734.

The exports of tissue and crêpe paper for February were valued at $64,203 as compared with $71,645 for January and $47,791 for February of last year. The exports of tissue and toilet-paper for the eight months ending with February were valued at $565,980.

The exports of toilet papers for February amounted to $40,093 as compared with $62,719 for January and $33,325 for February, 1922. The exports of toilet paper for the eight months ending with February were valued at $371,488.

The foreign sales of paper board and strawboard for February amounted to $164,108 as compared with $150,853 for January and $121,347 for February of last year. The foreign sales of paper board and strawboard for the eight months ending with February amounted to $1,428,257 as compared with $949,649 for the same period last year.

The exports of cover paper for February amounted to $9,881 as compared with $15,551 for January and $12,092 for February of last year. The exports of cover paper for the eight months ending with February were valued at $145,391.

The exports of grease proof and water proof paper for February amounted to $19,943 as compared with $17,763 for January and $3,652 for February of last year. The exports of grease proof and water proof paper for the eight months ending with February were valued at $114,145.

The exports of paper bags for February were valued at $102,283 as compared with $58,445 for January and $102,780 for February of last year. The exports of paper bags for the eight months ending with February were valued at $641,095 as compared with $518,469 for the same period last year.

The exports of envelopes for February were valued at $31,483 as compared with $42,550 for January and $27,173 for February of last year. The exports of envelopes for the eight months ending with February were valued at $330,603.

MOUNTING LABOR COSTS

How seriously the mounting labor costs are threatening profits cannot be precisely measured, but there can be no doubt that for many producers continued profitable operation will depend upon their ability to market their products at higher than present prices, according to the Guaranty Trust Company of New York. How much prices may be raised above present levels, uneven as the advances would be, without checking the flow of goods to the final consumers is probably the most important uncertainty in the present complex business situation, the company believes.

The persistent ease in bank credit provides no assurance that so long as this condition obtains a reversal of the upward trend of business activity is improbable. Sometimes threatened exhaustion of the lending power of the banks is the condition which immediately precipitates a general contraction of business, but not always. The reaction may be brought about as the direct consequence of maladjustments of prices, production, and distribution, at a time when bank reserves are high and money rates are moderate. Inequalities in relative costs of production, in living costs, and in buying power, with the accompanying shifting incidence of demand for goods and services, may themselves so drastically disturb customary relationships as to make a general readjustment of prices and production inevitable.

The pressure of extraordinary demand for the products of one industry or related group of industries, accompanied by relatively weak demand for other products, tends to enhance the purchasing power of some groups of consumers and to depress that of others. Disproportionately high wages or other costs, for example, may permit profitable operation of plants in one industry but prove ruinous where, through the workings of competition, the same scale of costs is met in other lines. To some extent readjustments as between one price and another and between one wage rate and another are continuing features of competitive industry, providing a somewhat automatic correction of recurring maladjustments. Only when this dynamic character of business results in excessive strains do the corrective influences definitely arrest expansion. A reaction which is not preceded by excessive credit strain is usually less abrupt than one precipitated by the cumulative weaknesses of credit inflation. In the latter case there is nearly simultaneous readjustment for virtually all industries in the country or countries affected, whereas if the credit structure is still elastic when the reversal in business comes, usually the shock of the reaction is more gradually passed from one industry to another.

The nearest approach to stability of prices for a comparatively

long period has been maintained by the group of consumers' goods. The first turn upward after the long decline of 1920-21 came in July of the latter year, followed by a half year of renewed recessions. Since that time the range of the fluctuations has been narrow, and the level in March of this year was the same as that for May, 1921.

What the effect would be of a substantial rise in the prices of consumers' goods in the immediate future is, of course, problematical. The comparative stability of these prices for two years, and of the raw materials index for six months, however, indicates that the upward rebound of average prices of raw materials was probably not abnormal. Moreover, the continuing spread between the indices of consumers' goods and raw materials does not necessarily represent an unstable condition. The relative levels in 1913, which constitute the base of the indices, provide no all-sufficient measure of normality.

As the prices of raw materials fell too low in 1921, compared with prices of consumers' goods, they have risen considerably above the relative level of the latter, and may be expected to rise little, if any, further except in response to actual or anticipated renewed advances in prices the final consumers pay. Possibly a substantial rise in these prices might occur without inducing the consumers to balk, but a succession of advances would make increasingly probable such a reaction as would arrest the expansion of business.

In so far as the existing maladjustments bear heavily upon the agricultural interests, possibly more than a temporary condition is appearing. The war-time expansion of industrial producing capacity in this country has accentuated the tendency toward the predominance of manufacturing. Moreover, heavily indebted countries of Europe, whose food requirements have been a mainstay of a goodly proportion of the American farmers, now have unusual inducements to depend as little as possible upon imported supplies. And there is the added fact that the present tariff policy inevitably operates to the greater advantage of manufacturing than of agricultural interests.

The significance of the maladjustments of prices, and of disproportionate production, with respect to the business cycle, lies in the fact that further uneven changes in prices might induce an early widespread reaction. When, owing to maladjusted prices and wages, the consuming power of important groups is too much curtailed, the situation has to be rectified; somewhere in the chain of economic relationships there must be readjustment. It is much better to avoid the excesses of runaway prices than to have them forced down by "economy campaigns" and the like. Improving conditions in Europe may add materially in the near future to the conditions which tend to sustain prosperity here. But neither foreign nor domestic stimulating or sustaining influences could indefinitely withstand the effects of increasing maladjustments.

Burgess Sulphite Division Resumed

[FROM OUR REGULAR CORRESPONDENT.]

BERLIN, N. H., April 30, 1923.—The Burgess Sulphite Division of Brown Company which has been closed down for a time resumed operations April 23, on full schedule.

Mississippi Favorable for Paper Making

Charles A. McKeand in his report to the Mississippi Development Board finds that six things are in Missippi's favor in connection with the paper mill industry.

In the north, buildings must be heavily constructed on account of the cold, lumber and building materials are high, and the general climate conditions are not so favorable there as in the south. The buildings for a plant in this state could be erected much more cheaply and would not have to be so weather-tight, Mr. McKeand stated.

Labor is another factor that the engineer takes into consideration and he holds that Mississippi has all the advantages in that respect. The labor in the north is high and that in the south is relatively low-priced.

Fuel costs in the south would be less, Mr. McKeand states, both on account of the milder climate and on account of the nearness of the Alabama coal mines.

The fourth fact, the engineer argues, that favors Mississippi, is that Mississippi pine makes excellent kraft paper and the pulp would be available—cheaper than in the north.

The fifth fact in Mississippi's favor, says the report, is the accessibility of the southern markets for stationery, print paper, kraft papers and cardboard. The report argues that Mississippi in its infancy in shipping and predicts much cheaper shipping in the next few years.

The sixth thing in favor of Mississippi is the fact that "a company not only has the possibilities from paper but those trees that are too large or would make good lumber could be cut for that purpose by a small sawmill. Grain alcohol can be made from pine in a new process that makes it commercially practical. The pine needles can be made into baskets by women and girls in the vicinity of the plant and can be shipped north and sold as novelties at an enormous price. Nothing will be wasted in the tree, as the stumps can be extracted and put through a reduction plant for the oils, rosin and commercial charcoal."

Mr. McKeand's conclusion is that "Mississippi has all the necessary advantages for the successful, economical and profitable manufacturing of paper. The industry, by necessity, will have to come south. Mississippi stands today in the same position that the Piedmont section of the Carolinas stood in relation to cotton milling twenty years ago. If a start is made now, by local capital, fifteen years from now, Mississippi can be the greatest paper state in the Union. For every foot of lumber cut in Mississippi there is an equivalent waste of two feet. This waste intelligently utilized, would bring ten times the profit derived from lumbering."

George W. Mead Back From Europe

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., April 30, 1923.—George W. Mead, president of the Consolidated Water Power and Paper Company, who, with Mrs. Mead, spent two and one-half months touring Europe, declared that business across the Atlantic is on the upgrade. He returned to his home in Wisconsin Rapids last week. His son, Stanton Mead, remained in Europe for a few weeks to study conditions in Germany and Austria, and is expected to sail from England this week.

Mr. Mead visited Palestine, where he was impressed by the progress of the Zionist movement. He also spent some time in Egypt, visiting the tomb of Tut-Ankh-Amen, which had been closed to prevent further removal of treasures.

The revival of business is more pronounced in the Continental countries of Europe than in England, Mr. Mead said. He also said that conditions in Turkey and Greece are not satisfactory because of the constant strife between those nations.

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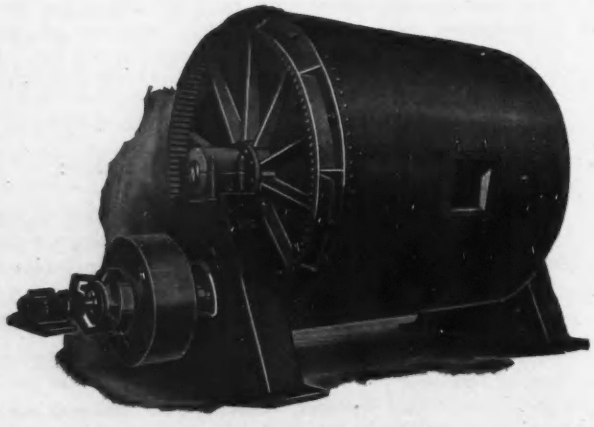

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Conducted by W.G.MacNAUGHTON, Secretary

TEN DIFFICULTIES EXPERIENCED IN ENGINE SIZING*

By E. C. Tucker, Crocker-McElwain Co., Holyoke, Mass.

It is my intention to-night in handling this subject to give you some concrete and definite difficulties that are experienced in sizing paper with rosin size; to indicate possible ways of the solution of these difficulties; and, if possible, to bring out by your discussion the best methods of solving these difficulties.

Before going to these concrete cases, however, I want to give a few general ideas on the mechanism of the process of sizing paper with rosin and aluminum sulphate. First of all, you should understand that this process is not now and has never been thoroughly understood. A great part of it is understandable by the laws of pure chemistry—but this only takes us a little way. A part of it is understandable from the viewpoint of colloidal chemistry, but here, too, we can only go part way. There are many things about the process that are a mystery to all of us, in spite of the fact that it has been used daily in one of the largest industries in the world for many years.

What Is Known About Rosin Size

There are a few things that we do know about this process, however, and I just want to run over some of them briefly. To produce paper that is satisfactorily sized we know first of all that we must start with a rosin size solution that is satisfactory. This means that the rosin must be cooked with an alkali (either caustic soda or soda ash) to form a rosin soap. The rosin may be cooked with alkali enough to produce a size with practically no free rosin in it, or it may be cooked so as to produce a size with from 40 to 50 per cent free rosin in it and both of these will satisfactorily size paper. After the size is cooked it must then be put into solution, or a fine emulsion in water. In the case of a size containing little or no free rosin this is very simple, as sodium resinate is soluble in water. In the case of a size containing high free rosin special processes must be used to produce a stable size solution. In common practice a special emulsifier is used for this purpose. The result desired is a stable colloidal solution in which the particles of free rosin are extremely small. When this rosin milk is at its best, it will exhibit the following properties: It may be kept for months with no sign of settling out and very little change in the color. Its color is brownish and the solution is partly translucent. It may be diluted with distilled water to any desirable point without showing signs of settling out. It should pass through a filter paper readily without the slightest change.

The papermaker is of course anxious to obtain the greatest possible surface area or covering power in his solutions of rosin milk, and the finer the particles of free rosin in the size the more closely this condition is realized. The first requisite for good sizing then, is a good milk of rosin solution.

Much has been written in the past few years regarding a substitute for aluminum sulphate for the precipitation of this rosin milk in the beater. It is my opinion, however, that the part played by the alumina is quite as important as that played by the rosin size itself, and that no thoroughly satisfactory substitute for this purpose will be found.

Free Rosin

I have said that it is the effort of the papermaker to obtain and maintain as fine a division of the particles of free rosin in his size as possible, in order that the size may have a large covering power. I have often compared this condition in my mind to the question of paint. Those of you who have done any painting know that the finer the particles in the paint, the better its covering power. It must be mixed and stirred very carefully and then thoroughly brushed out. I want to connect this desirability of keeping this rosin milk solution in a very fine state of division with a phrase you all have heard, and which may have sounded portentious. This is the phrase "protective colloid." I have told you that this finely divided free rosin in the rosin milk is colloidal. Now there are many things which upset the equilibrium of a colloidal solution and to minimize the effect of these disturbing elements we often add to the rosin size either in the beater or before a material which is essentially colloidal in character and which keeps the rosin finely dispersed and divided. Perhaps the best protective colloid is the one most commonly used—animal glue.

Another commonly used protective colloid, is starch, and this is available and used in a great many different forms. Please keep in mind that the function of these materials—as far as the sizing with rosin goes—is to keep the rosin solution in a finely divided state so that it will have the largest possible covering power.

As we all know the thing which makes this rosin sizing problem so interesting to us all is the fact that this is an uncertain reaction and affected by many conditions. Those of us who make papers where we depend largely or wholly on the rosin size for the ink resistance more fully realize this perhaps than those who are making loft dried papers and have a second chance to cure any sizing troubles which may appear, with a good dose of top size.

Common Difficulties

Now I am going to take up in detail some of the common diffi-

*Address before the Holyoke Section of TAPPI.

culties which destroy the ink resisting qualities in the paper. I will pass over the case where through negligence the rosin size or the alum or both were left out.

Hard Water

Let us discuss the case of hard water and its effect on sizing and the means of overcoming it. Perhaps the best way of explaining why hard water causes trouble is to take the following condition. As you know, hard water contains the salts of calcium and magnesium usually in the forms of carbonates, bicarbonates, sulphates and, (or), chlorides. If a colloidal solution of rosin milk is added to this water two things probably happen—first a part of the rosin is precipitated directly as calcium or magnesium resinate and is lost so far as its value as size is concerned. Second, the salts present in hard water tend to make the rosin gather into large particles so that its colloidal condition is seriously affected and a large part of its covering power lost. Now in addition to this, there is another effect resulting from the action of the alum, when the bulk of the precipitation takes place. More of the calcium and magnesium salts are carried down and the sizing power of the precipitate much injured.

If the water is not very hard a protective colloid (glue for example) will help considerably, but usually this will not help sufficiently to produce the desired result. The solution which I would suggest for this situation would be this. If the water is very hard the proportions of rosin size and alum must be increased somewhat. About two hours before the beater is to be emptied add the alum, increasing the ratio of alum to size somewhat above what would normally be used for sizing with soft water. Then add the rosin size about an hour later and it may be desirable in case of very hard water to mix a protective colloid with the size. The advantages gained by this method are these. The precipitation takes place under high alum concentration and becomes partially selective, i. e., it precipitates with the alum instead of the calcium and magnesium. Even under these conditions many things may happen to upset the reaction and sizing paper with rosin—where hard water is used is always fraught with difficulties.

Calcium Salts in the Stock

Another trouble, which is very much akin to the former case, is the loss of sizing due to the presence of calcium salts particularly in the half stock from which the paper is to be made. This produces a result very similar to the case of hard water, and the method of procedure in case the stock cannot be washed properly is similar to that offered above. Namely, add the alum first and in such quantities as to produce a selective reaction. If the stock is particularly bad, it is almost impossible to produce paper that is properly sized unless the stock is washed.

Effect of Heat

A particularly interesting problem is the effect of heat on the rosin sizing reaction. After the size and alum have been added and the precipitate formed, it is not uncommon to find the paper slack sized due to heat. In this case the paper is very apt to start over the machine perfect in every respect so far as sizing goes. Then, about an hour later, the paper comes off like blotting paper so far as its ink resisting qualities are concerned. Starch, glue and protective colloids help little if any. The cause is to be found here in the so-called "hydrolysis of the precipitate." At temperatures of 100 to 125° F. this reaction goes on, and the degree of lack of sizing is dependent upon the temperature and the length of time to which the alum-rosin precipitate is subjected to the temperature. I know of no way of solving this difficulty except either to decrease the time to which the precipitate is subjected to this high temperature, or to decrease the temperature. The writer recalls a case where this difficulty was solved only by taking the stock directly to the fan pump box from the jordan. There are doubtless some of you gentlemen who will take issue with me on this proposition, if so I shall be very glad to hear from you.

Acidity of Backwater

Another case of a very similar difficulty to this is the case of slack sizing due to excessive acidity of the back water. This case comes up in mills where they use the back water from the machine to furnish the beaters, and a similar hydrolysis of the rosin alum precipitate takes place dependent here upon the degree of acidity and upon the time of contact of the precipitate with the acidity. The remedy here, of course, is to cut down the acidity of the back water.

Soft White Shavings

Some of you gentlemen who use soft white shavings as a part of your furnish are quite apt to run into sizing trouble once in a while. This difficulty is a rather hard one to give a specific cause for, as the difficulty is probably due to something in the soft shavings and they contain everything. I think, however, that there are two main causes of trouble for which this material is responsible. First, many times they contain quite large amounts of materials which act like calcium salts and produce a calcium rosin precipitate. Here we have a condition similar to the second case mentioned. Second, they may contain materials which will absorb large amounts of alum, and more alum is needed than for the proper precipitation of the rosin size. Usually the addition of 15 or 20 lb. of alum to the beater will overcome this difficulty.

Filler

Some time ago I had brought to my attention a case of which I am now reminded. There was considerable difficulty in sizing in this case and after a series of elimination of other possible difficulties the trouble was traced to the filler furnished. This filler would absorb about 5 to 10 per cent of its weight in alum at the concentrations used in the beater. As 300 lbs. was used to the beater and normally only about 30 lb. of alum, you can see what had happened. By increasing the alum up to 45 to 50 lb. in this case the difficulty was entirely overcome.

It may be interesting to note here that due to the different practices and equipment in the different mills these things may take an entirely different turn. For example, in another mill the use of this same filler resulted in a quite different experience. The sizing was apparently not affected at all, but the filler had so taken up the alum that the color was not mordanted and dropped off fifty per cent. The addition of alum brought the color to full shade again.

Some of you gentlemen have, I think, experienced trouble in sizing paper satisfactorily when using crown filler. The difficulty in this case occurred, I believe, because of the presence of free acid in the crown filler, and the result was probably caused by first faulty precipitation due to the presence of the acid, and, second, because of hydrolysis of the rosin alum precipitate by the acid. The remedy here of course is to get crown filler free of acid.

In general this covers what I have to say with regard to slack sizing as it applies to materials furnished to the beater, except that I might add that it is usually considered easier to fully size sulphite pulp for example than to size rag stock. A possible reason for this is the fact that the sulphite, having been thoroughly cooked with strong acid is more susceptible than rag stock. I come now to the difficulties affecting rosin sizing which occur on the machine.

Influence of Hot Driers

As the first of these let us consider the case of a very hot drier with which the paper comes in contact when it leaves the presses. This will sometimes cause one side of the paper to be slack sized due probably to some action on the rosin alum precipitate. The remedy is of course to keep the first driers cooler. In fact, too hot driers here do more harm than good in drying the paper.

Suction

Another cause to which slack sizing may sometimes be at-

tributed is too much suction on the suction boxes so that the size is pulled out of the bottom side of the sheet. I believe that this occurs particularly when through some other cause the precipitate is previously rendered somewhat granular instead of gelatinous, and is a purely mechanical process, though washing of the water through the paper on the wire has probably as much to do with it as the suction boxes. Moreover the paper on the wire serves as a filter and by collecting the rosin alum precipitate on the top side emphasizes the difference between the two sides. This is helped by using less water on the machine, but probably the difficulty elsewhere must be overcome.

Heating the Stock

As the next case to present to you I have the sizing difficulties sometimes encountered when it is necessary to heat the stuff to free it. I do not know how this can be avoided. Slack sizing does not always result—but sometimes it does. Perhaps some of you gentlemen will be able to throw more light on this subject.

Damp Paper

There is just one other machine condition that I might speak of. Sometimes when paper is damp, the sizing is very much affected. If this paper is dried however, the sizing is all right. Some slack sizing trouble has been experienced with envelope paper, in which uncooked starch had been furnished, which was dried soft. However, when properly dried the paper was satisfactorily sized.

The discussion on the various phases of the evening's topic was prefaced by a definition of terms.

Free Rosin

The preparation of rosin for use as a paper sizing agent is accomplished by combining the rosin with an alkali (soda ash). The use of 17 lb. of soda ash per 100 lb. rosin will produce what is termed a "neutral" solution—one in which all the rosin is combined with soda ash. Such a combination is easily soluble in water.

The use of a lesses quantity, proportionately, of soda ash will leave part of the rosin uncombined and that part of the total rosin uncombined is called "free rosin." For example, the practice of using 11 lb. soda ash per cwt. of rosin will produce 40 per cent free rosin. This free rosin is not soluble in water.

Colloidal Solution

Free rosin, insoluble in water, is put in colloidal solution by emulsification. A colloidal solution is one in which the insoluble particles are so finely divided that they remain in suspension. The particles in suspension in a colloidal solution are from .001 mm. to .0001 mm. A high free rosin content is considered more economical but beyond a 50 per cent free rosin content, the solution is unstable, and the rosin gathers and precipitates.

Hydrolysis of Aluminum-Resinate Precipitate

Normally gelatinous, the rosin, subjected to hydrolysis, splits upgiving off water and destroying the gelatinous nature of the precipitate.

The discussion of the difficulties experienced in engine sizing is hereunder noted:

Hard Water

The practice of increasing the proportion of rosin and alum was indorsed. The order of addition to beater was also accepted.

Range of hardness was indicated as 30 parts in Connecticut River water with which no difficulty was encountered, to 200 parts per million in deep well water.

With soft water 1 per cent rosin was said to be low point and with hard water 1½ per cent rosin, with a higher than normal alum ratio, was considered good practice.

Calcium Salts in Half Stock

Considerable diversions of opinion was in evidence regarding the action of green stock. No instance was offered of slack seizing trouble traced to green stock.

Discussion of the chemistry of this question brought out that calcium chloride and calcium sulphate would not cause slack sizing difficulties, but that calcium carbonate would do so.

The use of sodium bleach on rags, previously cooked with a high percentage of lime, was said to eliminate green stock difficulties and produce stock of uniformly high color even after six months in drainers.

An interesting phase of half stock handling mentioned, in no way connected with the question under consideration, was the use of bleach to freshen old stock, killing the fungus growth which develop.

Excessive Heat in Stock

T. C. Bowen, of the Strathmore Paper Co., advised that he had never experienced difficulty in this respect notwithstanding the fact that stock was 120° F. from the beater, 150° F. from jordan and 130° F. in machine chest. He further stated that the furnish on this stock was 100 per cent rag and that a 25 per cent free rosin was use.

The concensus of opinion, however, was that excessive temperatures caused slack sizing. E. C. Tucker advised that experiments made at the Crocker-McElwain Company showed a granular precipitate at 100° F.; further that hand sheets, made from stock in alum and rosin at 75° F. were sized well and that the same combination heated to 120° F. caused slack sizing in hand sheets, both air dried and machine dried. Mr. Tucker added that a time contact of 15 to 20 minutes was the maximum on 120° F. stock and 2 hours on 100° F. stock.

Difficulty Due to Use of Soft White Shavings and Coated Papers

No discussion of this subject, with the exception of a statement by Norman Clark of the Whitmore Mfg. Co. (coating plant) that various proportions of alkali were used in the coating materials which would absorb alum in those same proportions.

Excess Acidity in Crown Filler

Statement of ½ per cent free acid in crown filler as limit. In case mentioned by E. C. Tucker, the excess was in the vicinity of 3 per cent due to improperly washed filler.

Hot Dryers

Two theories were advanced as causes for slack sizing due to hot dryers—or overheating—in the early drying period.

The first was that the action of the heat caused the water to vaporize quickly and form an explosive steam destroying the sizing as it left the paper.

The second was that the best method of drying, for sizing, was the gradual heating of the sheet to that point when the size was subjected to a so-called "sintering" effect. Premature high temperatures caused the contraction of the size upon the fiber a cracking or splitting of the size film, which allows of ink penetration or slack sizing.

Order of Alum and Rosin Addition to Beater

It was stated that the order of rosin and alum addition to beater was dependent upon the acidity of the stock, the back water—if used—and the water furnished.

The practice of adding alum first—in part or in whole—was stated to result in better circulation and the elimination of foaming.

The addition of rosin size slowly to rag stock was said to cause no foaming trouble.

Sheet Pasted Papers

Paper to be used for pastings, and pasted on the sheet paster, with a starch adhesive, requires well sizing. Difficulty has been experienced with paper on the ragged edge as regards sizing going slack sized after pasting.

TECHNICAL SECTION, PAGE 160

RAPID MEANS OF DETERMINING STOCK DENSITY*

F. M. WILLIAMS

I was pleased the other day in reading a letter by B. T. McBain on "Waste" as printed in the PAPER TRADE JOURNAL.

"Just got and have read your 'Talk-E-Talk' on 'Waste.' My gracious, isn't it awful; National, State, commercial, personal waste. The result of bureau activity is more waste. The performance of all commissions is waste; with no exception, they serve no useful purpose."

One of the most important problems of waste confronting the committee, as indicated in first progress report at the Fall Convention of the Technical Association is loss of fibre, filler and other materials in white and other mill effluent.

Summarizing the Findings

Summarizing the findings of this report upon this subject, it is first necessary to find out total volume of white water discharged daily; second, the quantity of fiber and other valuable material in the white water and third, possible and practical means of recovery and fourth, practical utilization of this waste after recovery.

Several methods are suggested for sampling and measuring the volume of white water. The next thing is to determine quickly and accurately the total amount of fiber, filler and other valuable material in this waste which brings us to the subject of this paper, A Rapid Means of Determining the Density of Stock.

White water, being the least dense of any wet stock about the mill, forms a proper starting point for this consideration.

The ordinary method for the determination of fiber and filler in white water is to filter this, dry the filtered residue in an oven and weigh. This method is open to several objections, principally on the ground of slowness and tediousness of the operations involved. Secondly, that ordinarily large enough sample of white water is taken to form the basis of an accurate calculation where the error is multiplied as many times as it is in the case of the final calculation in pounds of fiber and filler per thousand gallons of liquid.

The writer has worked out a method of determination of fiber and filler in white water which is at the same time much more rapid and accurate than the one above described, as ordinarily practiced.

Details of the Method

Reduced to its simplest terms, the method is this:

Starting with a weighed or measured sample of white water, pass through centrifugal extractor, which is much more rapid than filtration, a sufficient quantity of up to two or three gallons to give a fair amount of recovered fiber. After the water has been quickly thrown out, without removing sample from centrifuge, an especially designed electric heater is inserted in the center opening of the revolving basket which causes a current of superheated air to pass through the fibers drying the sample bone dry in less than five minutes' time.

Another special feature of this centrifuge is a means for the quick removal of the bone dry sample which comes out intact in a strip about 2½ in. wide and 22 in. long and is now ready for a quick bone dry weighing.

It is now only necessary to ignite a portion of this dry sample to give basis for calculation of ash free fiber in white water as well as mineral filler recovered.

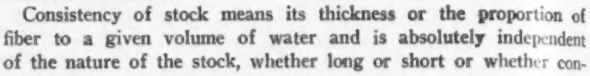
The usefulness of this special centrifugal extraction and drying apparatus is not confined solely to the determination of fiber and filler in white water but may be used to determine the consistency of wet stock at any point in the process of paper making.

At this point, it might be well to define clearly the distinction between consistency, density and freeness of stock as these words are often misused.

Consistency of stock means its thickness or the proportion of fiber to a given volume of water and is absolutely independent of the nature of the stock, whether long or short or whether containing filler.

Density, in so far as it applies to a mixture of fiber and water, is practically the same as thickness or consistency.

But freeness of stock is an entirely different proposition and means the rapidity at which stock will give up its water through



WILLIAMS IMPROVED ELECTRICAL CENTRIFUGAL EXTRACTOR WITH ELECTRIC HEATING AND DRYING DEVICE

a strainer. Obviously, this is affected by the longness or shortness of the fiber, by the amount of filler contained and to a certain degree by temperature.

After defining these terms which are easily confused, we will return to the subject of our paper which is the determination of density.

Necessity for Knowing Density of Stock

In the first place, why is it essential or necessary to know the density of stock? The density of stock has direct bearing upon the cost, convenience and economy of handling, otherwise why use pulp thickness? The density of stock also has a direct bearing upon the efficiency of treating as it is a well-known fact that up to a certain limit, the efficiency of a beater increases in direct proportion to the thickness or consistency of the stock. The fundamental reason for this being set forth by Dr. Sigurd Smith in a paper entitled, "The Action of the Beater in Paper Making" read before the Royal Society of Arts, London and reprinted in PAPER TRADE JOURNAL Dec. 28, 1922, in which he deals exhaustively with the subject of fiberage.

The density of the stock is also important in calculating cost and checking inventories, for example knowing the exact percentage of fiber in the liquid stock, it is then possible to meter the latter and from this calculate the total amount of fiber passed in twenty-four hours. The amount of fiber chargeable to a beater is easily determined by an accurate determination of density knowing the total volume of the beater when filled to a certain level.

A determination of the density or thickness as furnished at the paper machine is also a matter of importance if paper of a uniform thickness and weight is to be made.

So much for the importance of density determinations of paper stock and with this in view, the writer has developed this special form of centrifugal extraction and drying apparatus which reduces the density determination to its simplest terms, namely, pour weighed or measured quantity of the stock to be tested through the electric centrifuge, insert electric drier, remove bone dry sample and weigh. If a separation between fiber and filler is desired, ignite sample and determine ash.

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CURRENT PAPER TRADE LITERATURE

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Raw Material

The Quantitative Composition of Coniferous Woods. Astrid Cleve v. Euler. *Celluloschemie*, 4, 1-11 (Feb. 11, 1923).—As a result of several investigations it has been established that the lignin content of woods is not constant but varies within rather wide limits. The controlling factors are the age of the tree, the climate and conditions of growth, and the section of the tree tested. As an aid in determining the true lignin value the following definition is offered: Wood proper, chemically considered, consists of the carbohydrates of the cell walls, insoluble incrustations or lignin substances of a tannin nature which are mixed with the carbohydrates, soluble tannin substances related to lignin, and dyes or their leuco compounds which appear in the cell wall and bear a certain relationship to lignin. The mineral constituents (represented by the ash), wood protein, fat and turpentine are not included as a part of wood proper. Evidence is given for alcohol-soluble lignin and considerable space is devoted to the nature of the rosin extract. The best procedure to follow in the extraction of coniferous wood is first a 10 hour extraction with benzol, followed by 30 hr. with 96 per cent alcohol at boiling temperature in a soxhlet or similar apparatus. Separate extractions are better than a benzol-alcohol mixture. Averages of 9 tests on Swedish coniferous woods gave 4.15 per cent bezol-rosin and 3.63 per cent alcohol (lignin)-rosin To obtain true lignin values from empirical ones, as given by the Willstatter-Zeichmeister 41 per cent hydrochloric acid method or the Klason-Becker 72 per cent sulphuric acid method, the following corrections should be applied: (1) the residue obtained by weighing calculated in per cent of the dry wood should be increased 2 units to compensate for loss of acetyl; (2) if the sulphuric acid method was used the resulting value should be decreased by 5.7 units which corresponds to 4.0 per cent sulphur taken up from the acid; (3) the so-corrected value should be adjusted to ash- and protein-free wood (ash and protein amount to about 1 per cent), also to rosin-free wood as given by the benzol extraction and finally to wood dried to 102° C.; (4) to the previously corrected lignin value the amount of lignin-rosin extracted with alcohol (after a previous extraction with benzol), based on fat-, protein- and ash-free wood, should be added. This figure, then, represents the true lignin value for pure, dry wood. The following corrected true values are given (average of 9 analyses of spruce and pine) for Swedish woods: total lignin 28.4 per cent, carbohydrates 71.6 per cent. Data are given comparing the results of Klason and of Oman with those of the author.—J. L. P.

High Spots in the Chemistry of Cellulose. Gustavus J. Esselen, Jr., *Ind. Eng. Chem.*, 15, 306-308 (March, 1923).—Brief notes on a few of the more interesting of the recent developments in cellulose chemistry.—A. P.-C.

Removal of Resin, Fat, Wax, Etc., from Plant Material. C. G. Schwalbe. Ger. patent 363,666. *Wochbl. Papierfabr.*, 54, 396 (Feb. 10, 1923).—Dilute alkaline solutions, 0.5 to 2 per cent (as caustic soda, soda ash or ammonia) are employed at temperatures up to 65° C. The extraction liquid is given a continuous or an intermittent motion. Ger. patent 363,667, addition to 363,666. Reducing substances, as sodium sulphite or thiosulphate, are added to the alkaline solution, previous to the extraction, to remove the oxygen.—J. L. P.

The Composition of Chemical Pulps of Various Origins. Julien, Becker & Co. *Papeterie*, 45, 117 (Feb. 10, 1923).—Analyses are given of (1) bleached Austrian sulphite; (2) No. 1 strong German sulphite; (3) No. 2 strong German sulphite; (4) "St. Lawrence" Canadian easy-bleaching sulphite; (5) "St. Lawrence" Canadian hard sulphite; (6) Canadian "Ha Ha Bay" sulphite; (7) unbleached Scandinavian sulphite; (8) unbleached Scandinavian soda pulp.

Pulp	Cl consumption No.	Lignin %	Resins %	Alpha-cellulose %	Baryta Number	Ash %
1	1.5	....	0.288	84.54	82.91	.....
2	55.5	5.52	0.506	87.83	84.86	0.730
3	62.5	5.79	.....	87.43	85.76	0.712
4	24.2	4.37	0.658	86.88	84.92	0.518
5	75.5	....	.....	.....	.....	0.605
6	51.0	....	.....	.....	.....	0.480
7	47.0	....	0.882	.....	.....	0.867
8	....	4.85	0.102	90.03	96.33	0.732

All determinations were carried out on bone-dry pulp, with the exception of ash, which was determined on air-dry pulp. Lignin was determined by Becker's 72 per cent sulphuric acid method, resin (including fats and waxes) by extraction with ether, alpha-cellulose by means of 17.5 per cent caustic soda solution, baryta number by the Schwalbe-Sieber method, and chlorine consumption by a modification of Sieber's method (details not given3.—A. P.-C.

Production of Paper Stock from the Papyrus Plant. H. Steinhiller. Ger. patent 365,571. *Papierfabr.*, 21, 13 (Jan. 7, 1923).—The process consists in treating the papyrus plant, prepared by boiling or retting, to a mechanical squeezing action, as by beating or rolling, and a simultaneous washing with water to free it from pith. The remaining fiber bundles are disintegrated in a mechanical way.—J. L. P.

Production of Material Suitable for Spinning from Disintegrated Birds' Feathers. Martin Jonas. Ger. patent 364,567. *Papierfabr.* 21, 14 (Jan. 14, 1923).—Feathers which have been treated to remove all hard parts are added to beaten pulp, with or without an agglutinant, forming a very uniform mixture. This can be used on the paper machine for making spinning paper or spinning paper strips, or employed directly for the manufacture of spinning thread.—J. L. P.

Production of Stock for Roofing Felt. H. Abraham. Ger. patent 366,130. *Papierfabr.* 21, 31 (Jan. 14, 1923).—Sea grass is added to halfstuff and paper stock for the production of stock for roofing felt.—J. L. P.

Removal of Resin, Fat, Wax, etc., from Plant Materials, Especially Wood and Wood Pulps. C. G. Schwalbe. Ger. patent 366,205. *Papierfabr.* 21, 28-29 (Jan. 14, 1923).—The process consists in subjecting not only the extraction liquid but also the materials to be extracted to a continuous or intermittent motion, accomplished by rollers or similar devices which also expose fresh surfaces of the material to the solvent.—J. L. P.

Sulphite Process

Chemistry of the Sulphite Process, II. Chemical Properties of Pulps Prepared by Indirect Cooking. Mark W. Bray and T. M. Andrews, Forest Products Laboratory, Madison, Wis. *Paper Trade J.* 76, No. 3, 49-52 (Jan. 18, 1923). With all conditions constant except time, a series of spruce pulps was prepared by indirect cooking (for conditions of cooking see *Paper Trade J.* 20, 591, 1922).—These pulps were compared with commercial pulps made under similar conditions. It has been found possible to compare such pulps by taking into consideration the cellulose content. A high cellulose content appears necessary to produce good pulp. The percentages of stable and unstable celluloses are an indication of the quality of the pulp, the pulp with the greater amount of stable cellulose usually being of superior quality. The pulp deteriorates with the overcooking necessary to remove all the lignin. Until the ninth hour of cooking the cellulose and lignin contents of the pulp are very nearly the same as those of the wood. The first few hours do not affect the alkali-soluble material. In the latter

part of the cook a larger amount of this material is removed. While the character of the cellulose and lignin content is indicative of the quality of the pulp produced, other factors not well understood appear to exert considerable influence. Cellulose is always lost during the removal of lignin, and it seems 45 per cent is about the maximum yield of cellulose by present commercial methods of sulphite cooking.—A. P.-C.

The Reddening of Sulphite Pulp. H. E. Wahlberg. *Svensk Pappers-Tid.* Translation in *Paper Trade J.* 76, No. 6, 53 (Feb. 8, 1923).—The reddening of sulphite to pulp is caused by the oxidation of impurities in the pulp, such as ferrous salts and organic substances which give red ferris compounds. The reaction takes place especially in a moist atmosphere or in the presence of oxidizing agents, such as bleach liquor, and is accelerated by small quantities of copper salts in the pulp. The color can be avoided by the use of a cooking acid as free as possible from iron salts. The red color can be removed by washing the pulp with water acidulated with sulphurous acid.—A. P.-C.

Chemistry of the Sulphite Process, III. Reactions of the Calcium Base. R. N. Miller and W. H. Swanson, Forest Products Laboratory, Madison, Wis. *Paper Trade J.* 76, No. 9, 49-51 (March 1, 1923).—A report of an investigation into the disappearance of calcium during sulphide cooking, with observations on the effect of variable conditions on the pulp produced. The decrease at the end of the cook amounts to as much as 50 per cent (and over) of the total amount of base originally present in the liquor, the decrease depending on cooking conditions. Both the rate of disappearance of the base and the rate of exhaustion of the bisulphite is greater in the case of the drier wood; but the rate of combination of the base with the organic matter of the wood does not show great variations. The base missing from the liquor is localized around the fibers in some way, at least partially in the form of calcium monosulphite. The greater the moisture content of the wood, the less the amount of lime localized on the fibers. With slow temperature rises the disappearance of lime is greatly reduced. The rate of disappearance does not depend on the acid strength. All other conditions being equal, the wood of high moisture content will give a larger yield of better pulp.—A. P.-C.

Chemistry of the Sulphite Process, IV. Distribution of Sulphur During Cooking. R. N. Miller and W. H. Swanson, Forest Products Laboratory, Madison, Wis. *Paper Trade J.* 76, No. 10, 51-54 (March 8, 1923).—A series of semi-commercial indirect cooks were made, and the following determinations were made on samples of liquor from the digester: Total sulphur dioxide by a method developed by the authors (run 2 cc. of liquor into 1 cc. of 15 per cent caustic soda solution, half fill the crucible with sulphur-free Eschka mixture, dry at 100° C., heat while passing a stream of oxygen through, absorb the gases in 5 cc. of 15 per cent caustic soda solution, and then proceed as in the determination of sulphur in coal by the Eschka method, total inorganic sulphur dioxide by iodine titration, combined sulphur dioxide by Sander's method, loosely combined sulphur dioxide by Klason's method, and sulphate by Sherrard and Blanco's method. Total sulphur dioxide determinations do not account for all the sulphur dioxide; but if it is assumed that the missing base (see preceding abstract) and the missing sulphur dioxide are in combination as calcium bisulphite, and the sulphur dioxide equivalent to the missing base calculated and added to the sulphur dioxide found, the total sulphur dioxide thus found at the end of the cooks is practically equivalent to the total sulphur dioxide introduced into the digester. The results clearly show that the digester contents during the cook are not homogeneous, that there is a concentration of chemical in the chips. Loosely combined sulphur dioxide contributes little to the knowledge of the reactions going on in the digester. No appreciable quantity of sulphate is formed until near the end of the cook; the formation of sulphate does not appear to be governed by the temperature but rather by the concentration of free sulphur dioxide. A study of the results seems to show that the reactions taking place in the digester are subject to numerous variations and any attempt to set down a quantity as the correct value for sulphur consumption per ton of pulp is fruitless. Cooks made with kiln dried wood showed lower lignin removal per pound of organically combined sulphur. The reactions involving the combination of the base and sulphur with organic matter seem more or less independent of the reactions which govern the quality of the pulp.—A. P.-C.

Process for Filling Digesters with Warm Sulphite Cooking Acid. Zellstofffabrik Waldhof and Hans Clemm. Ger. patent 363,999. *Wochbl. Papierfabr.* 54, 396 (Feb. 10, 1923).—J. L. P.

Process for Producing a High-Percentage Sulphite Pulp. E. Bronnert. Ger. patent 363,997 *Wochbl. Papierfabr.* 54, 396 (Feb. 10, 1923).—The wood is given a preliminary cooking treatment with dilute sulphuric acid, about 1 per cent, under low pressure; customary cooking with bisulphite liquor follows.—J. L. P.

Refining of Commercial Wood Pulp. Ger. patent 302,523. *Wochbl. Papierfabr.* 54, 322 (Feb. 3, 1923).—For the production of special papers and articles, wood pulp, especially sulphite pulp, is treated with caustic alkalies or sulphur-containing alkalies under pressure and simultaneous mechanical working in the absence of oxidizing gases and steam; subsequent treatment is given to prevent precipitation of dissolved substances on the fiber.

Ger. patent 302,524. (Addition to preceding patent.) The pulp is prepared for the same purpose in a mechanical way, without chemicals, at a high density and temperature.—J. L. P.

Process for the Recovery of Sulphur from Waste Sulphite Liquor. Anton D. Seppe and Otto Zeitschel. Ger. patent 366,714. *Papierfabr.* 21, 68 (Feb. 4, 1923).—The evaporated dry waste liquor is treated with dry hydroxides, oxides or carbonates of the alkali elements and a small quantity of water and then heated to 150-300° C. The lignin is subsequently precipitated with an acid.—J. L. P.

Alkaline Processes

Production of Pulp by Means of Chlorine. B. Cataldi, assignor to A. Pomilio. Can. patent 226,002 (Nov. 14, 1922).—The material is subjected to the action of an alkaline liquor under pressure (first hydraulic and then steam pressure). It is transferred to an acid-resisting digester and then subjected to alternate treatments with chlorine gas and washings with water to cool the mass and remove the hydrochloric acid formed by the action of the chlorine. These treatments are continued until the temperature of the mass remains constant. The fibers are washed with clean water, subjected to a mild alkaline treatment at atmospheric pressure, and finally worked up as usual.—A. P.-C.

Refining of Commercial Wood Pulp. Ger. patent 302,523. *Wochbl. Papierfabr.* 54, 322 (Feb. 3, 1923).—For the production of special papers and articles, wood pulp, especially sulphite pulp, is treated with caustic alkalies or sulphur-containing alkalies under pressure and simultaneous mechanical working in the absence of oxidizing gases and steam, subsequent treatment is given to prevent precipitation of dissolved substances on the fiber.

Ger. patent 302,524. (Addition to preceding patent). The pulp is prepared for the same purpose in a mechanical way, without chemicals, at a high density and temperature.—J. L. P.

Process of Making Pulp. F. K. Fish, Jr., Can. patent 225,538 (Oct. 31, 1922).—The chips are first steamed in an atmosphere containing more or less of the volatile extractive matter from the wood then treated with a superheated solution (at about 245° F.) of the water soluble extractive matter of the wood. The pressure is relieved as rapidly as possible, the material is subjected to a vacuum, and it is then subjected to a mild treatment with a suitable chemical solution for a short time and then washed, first with hot water under pressure. The liquor used for the chemical treatment can be used repeatedly.—A. P.-C.

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(*To be continued*)

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

TESTING AND CONTROL PROCESS IN PAPER MAKING

By M. A. Krimmel, Assistant Chief Chemist, Hammermill Paper Co.

This article, which appeared in "Hammermill Bond," is printed in the Cost Section because it emphasizes so clearly the necessity for proper control of all manufacturing operations. Correct costs can only be obtained when correct information is available for the cost department. Cost men, therefore, must study the best means of obtaining such information. T. J. Burke.

The manufacture of pulp and paper as carried on at Hammermill is almost entirely a chemical process. All of the raw materials are chemicals or chemical products. In fact it can be said that this is a chemical industry comprised of several chemical plants. The chart shows how the acid, bleach, sizing, water, and power plants are linked up with the pulp and paper making processes. Each of these auxiliary plants has a significant bearing on the main process where their products are used. Any variation in these products obviously affects the uniformity of the pulp and paper. With this thought in mind, the necessity for control of the processes and products of the whole industry is more readily realized.

But, while it is true that pulp and paper making is largely a chemical process, physical, mechanical, and electrical as well as chemical methods are employed in our control work. Paper, our finished product, is judged and graded almost entirely by physical tests. Briefly, control as we have it consists of: Analysis and tests of raw materials, tests of products at different stages of the processes, observations of various factors that influence quality and production, guidance by means of recording instruments and reports, and analysis and tests of the finished products. But more than control of the process is obtained with such an extensive program. More economical purchase and use of raw material follows as does also conservation of natural resources. This is especially important in connection with wood and coal.

Types of Control

Scientific control at our plant represents the highly developed type. At many mills control is limited to the analysis of raw material and finished products, which provides only a means of determining the quality of each. There are many stages between these two extremes of the process that require control. For instance, a low grade pulp may be produced at a mill where only partial control prevails. It is usually blamed on poor quality wood. Complete control makes possible the production of uniform pulp from wood of varying quality and character by modification in the acid and cooking processes. With uniform pulp, and control of the bleaching, beating, and paper making processes, it is possible to make uniform paper. If the cooking acid were bought instead of made here, it might be uniform in strength and composition, but it could not be readily changed to provide for variations in the wood. Likewise, in the case of the bleaching plant, a uniform liquor can be produced from a bleach powder of varying strength because we have control of this plant. A uniform bleached pulp can be made in spite of the fact that pulps uniform in all other respects require a different amount of bleaching. Thus it is evident that with control of the individual plants the process is made more flexible, and better and more complete utilization of materials is possible.

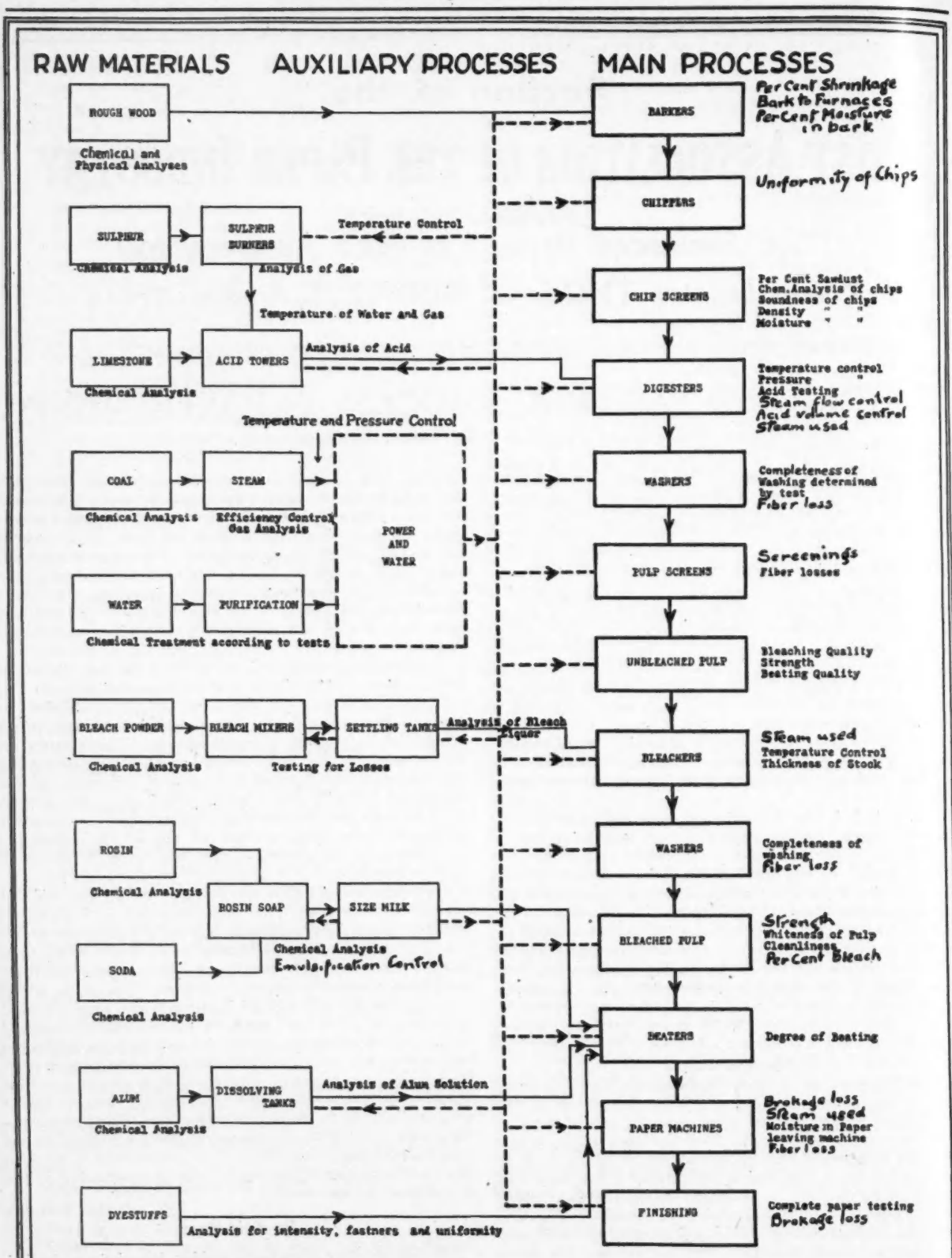
In some mills control tests are made by the operators of the several plants. While this method is better than no control at all, experience has proven that it is far more satisfactory to have this often-times delicate work performed by specially trained people under a separate control department. The operators are thereby enabled to give their undivided attention to production and maintenance of equipment, while the control department can link together all the factors into a perfect control cycle. We are especially fortunate that we have high class operators who appreciate and use this latter kind of control; and who are always willing to co-operate in the installation of more, and in the continuance of what we now have.

While there are no tests of any sort involved, it can be said that our control begins in the forest where, by proper specifications, the diameter, length, trim, percentage balsam, and soundness of the wood is controlled. The actual testing begins as soon as the wood enters the yard and with inspection is carried on until the paper made from it leaves the mill.

As a great deal of our wood is stored before use, it is tested when delivered to the yard and again when brought to the Wood Room. By this means any changes that take place can be detected and provided for. It is essential to know the percentage of cellulose, density, soundness, and kind of wood as these are varying factors which influence the results of the cooking process. Similar tests are made on the wood after it has been chipped with additional tests to determine the amount of sawdust produced by the chippers, percentage of proper size chips, and moisture in the chips. The quantity of sawdust and size of chips gives indications of loss and efficiency of operation.

The Acid Plant

The first auxiliary process-acid making, is entirely a chemical process in which a great deal of control is required. Two of our raw materials—sulphur and limestone, are converted into acid, for


RAW MATERIALS
AUXILIARY PROCESSES
MAIN PROCESSES
ROUGH WOOD
Chemical and Physical Analyses
BARKERS
Per Cent Shrinkage
Bark to Furnaces
Per Cent Moisture in Bark
CHIPPERS
Uniformity of Chips
SULPHUR
Chemical Analysis
SULPHUR BURNERS
Temperature Control
Analysis of Gas
CHIP SCREENS
Per Cent Sawdust
Chem. Analysis of chips
Soundness of chips
Density " "
Moisture " "
Temperature of Water and Gas
LIMESTONE
Chemical Analysis
ACID TOWERS
Analysis of Acid
DIGESTERS
Temperature control
Pressure "
Acid Testing
Steam flow control
Acid volume control
Steam used
Temperature and Pressure Control
COAL
Chemical Analysis
STEAM
Efficiency Control
Gas Analysis
POWER AND WATER
WASHERS
Completeness of Washing determined by test
Fiber loss
WATER
Chemical Treatment according to tests
PURIFICATION
PULP SCREENS
Screenings
Fiber losses
UNBLEACHED PULP
Bleaching Quality
Strength
Beating Quality
BLEACH POWDER
Chemical Analysis
BLEACH MIXERS
Testing for Losses
SETTLING TANKS
Analysis of Bleach Liquor
BLEACHERS
Steam used
Temperature Control
Thickness of Stock
ROSIN
Chemical Analysis
ROSIN SOAP
SIZE MILK
Chemical Analysis
Emulsification Control
WASHERS
Completeness of washing
Fiber loss
SODA
Chemical Analysis
BLEACHED PULP
Strength
Whiteness of Pulp
Cleanliness
Per Cent Bleach
BEATERS
Degree of Beating
ALUM
Chemical Analysis
DISSOLVING TANKS
Analysis of Alum Solution
PAPER MACHINES
Breakage loss
Steam used
Moisture in Paper leaving machine
Fiber loss
DYESTUFFS
Analysis for intensity, fastness and uniformity
FINISHING
Complete paper testing
Breakage loss

cooking the wood. As each must conform to specifications regarding quality and impurities, analysis of this material is necessary. In the first stage of the process we are concerned with the conversion of all of the sulphur to sulphur dioxide gas. It is very difficult to do this with one hundred per cent efficiency and to avoid the formation of unburned sulphur and trioxide gas with the sulphur dioxide. The presence of either or both, even in small amounts, means loss of material and what is still worse the pulp and paper will be seriously affected. Control is maintained with a high temperature recording instrument and by constant vigilance of the man who burns the sulphur.

Temperature of the gas after cooling, percentage of sulphur, temperature of water used, are all important factors in acid making and are all controlled. The resultant "tower acid" from this process is tested for its composition and temperature as is also the acid from the storage or reclaiming tanks which results from strengthening the tower acid with sulphur dioxide gas not used in the cooking process. The acid maker can produce a tower acid of a specified strength and temperature because he knows the temperature and strength of the gas, composition and physical qualities of the limestone, temperature of the water, gas pressure, and quantity of water pumped. These factors can be varied to produce the proper results. For instance, if the mill water is too warm he uses water cooled by refrigeration, if too cold, he applies steam. By the same method of control the cooking acid is made. Temperature, strength, and quantity of tower acid; temperature of gas entering the recovery tower; uniform relief of gas from the digesters; strength of gas leaving the recovery tower; quantity of acid in the storage tanks; and manner of steaming and cooking the digesters are the factors involved. It would be absolutely impossible to make uniform cooking acid without knowing and being able to manipulate these factors. Moreover there would be a serious loss of materials.

Fiber Control

The tests made on the wood and chips give information concerning the character of the wood before the cooking is begun. The digester man has the analysis of the acid to be used together with the results of tests made on the pulp from the preceding cook. During the cooking period the temperature and pressure within the digester are carefully controlled and hourly tests of the liquor are made to determine the progress of the cook. The completion of the pulp is determined by test and observations of pressure.

As we are making a bond paper, all of that portion of the wood which is removed from the cellulose fiber during the cooking process must be completely eliminated. This is accomplished almost entirely by washing the fiber in the blow pits. Samples of the wash water are examined to determine when the washing is complete.

Throughout the pulp making process from the blow pit to the wet machine where the pulp is put into lap form and this includes screens, thickeners, and washers; every place where water is leaving the stock is carefully guarded against fiber losses. Tests are made several times a day on this waste water to determine the presence of even a small amount of fiber.

The Bleaching Process

In the bleaching process we encounter another raw material and its conversion into a form suitable for our use. Bleaching powder is bought on specification that it must contain at least 35 per cent available chlorine which is the active ingredient of this product. Therefore tests must be made on every shipment to safeguard our purchase. Desiring to extract as much of this active material from the powder as is possible for the sake of economy, all of the sludge from the bleach settling tanks is tested to determine the amount of chlorine it contains. In this manner any loss from this source is checked.

The finished bleaching liquor used in the bleachers is analyzed for its chlorine content in order to determine the proper amount to use in bleaching. Tests are made on the unbleached pulp which show how much bleach liquor of a definite strength must be used to produce a good white pulp. With these tests that tell us how much bleach the pulp will require and how much liquor to fulfill this requirement, together with consistency tests that show the amount of pulp to be bleached, and with the control of temperature, the bleaching process can be accurately controlled. This is very necessary as bleaching without control of this sort will result in an inferior product, loss of material, or both. But even after all these precautions have been taken to secure the proper results, the final bleached pulp from each bleacher is graded by test for whiteness and cleanliness.

Every cook of pulp is tested separately for strength and beating qualities so that if there are any variations in the cooking process, they can be eliminated by modifications in the beating process. By means of these tests the Beatermen know hours before they receive the pulp just what kind of pulp they are going to get and when to expect it.

Paper Making Control

To assist in the beating process where the sizing and drying process is done, these two latter processes are subjected to control. A reliable sizing solution is of great importance. The manufacture of a uniform product which can be modified as occasion demands requires that tests be made on the raw rosin, and soda ash, and on the rosin soap and milk of size made from them. The operator of the rosin kitchen is thus guided in making a perfect sizing solution, the strength of which is known before it reaches the beater room. The alum solution used in connection with the sizing is also tested as well as the alum cake from which it is made.

Uniformity of shade, fastness to light, and absence of two sidedness in paper are factors of very great importance in our plant where twelve different colors and white are produced. A number of different dyestuffs are required. While we cannot control the manufacture of these dyestuffs, we do control their uniformity by testing each shipment for the previously mentioned qualities, and other characteristics. The suitability of a dye for use in our line of papers is also determined before it is actually used in our combination. Approximate formulas for new shades are determined on a laboratory scale rather than developed in the beater at a great expense due to loss of time and production.

The extent to which the beating process has been carried on in the beaters and jordans is measured by the so-called "slowness" test. This test together with consistency and stock regulators, vacuum gauges, temperature control system, speed indicators, strength, weight, moisture testers, and constant vigilance upon the part of the machine tenders and paper machine crew controls the manufacture of the paper on the machines.

The Finished Product

After all this careful and thorough control that has been applied throughout the entire process, the results are checked up by inspection and testing of the finished product—paper. This is most rigid. The eyes of the finishing room are always on the alert for those imperfections which are apparent to the naked eye. But the testing methods are necessary to express the quality. Therefore all known tests are applied but there are too many to mention singly. They express the strength, folding endurance degree of sizing, felting, weight, thickness, formation and chemical content. These tests are made so frequently that we have absolute control of the finished product.

Important Auxiliaries

There are several phases of the control system which have not as yet been mentioned. Water, power and recording instruments are linked up with every plant in our industry. A large quantity of crystal clear water is required. In order to obtain it we treat and filter every one of the seventeen and a half million gallons pumped per day before using in the mill. For use in the boilers to prevent scale and corrosion eight thousand gallons are further puri-

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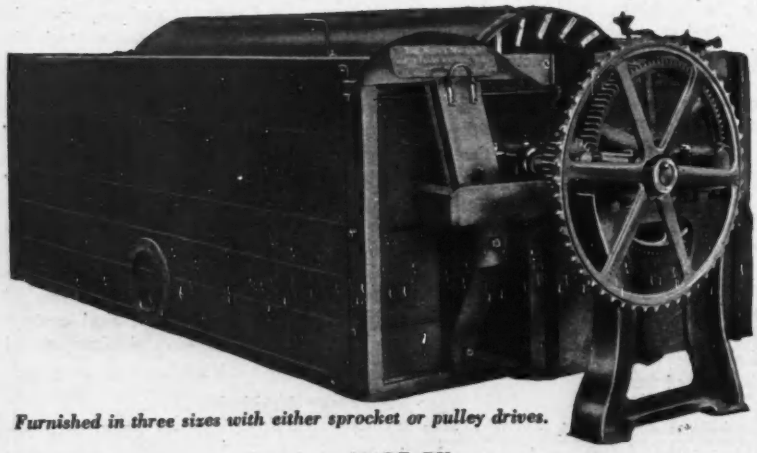

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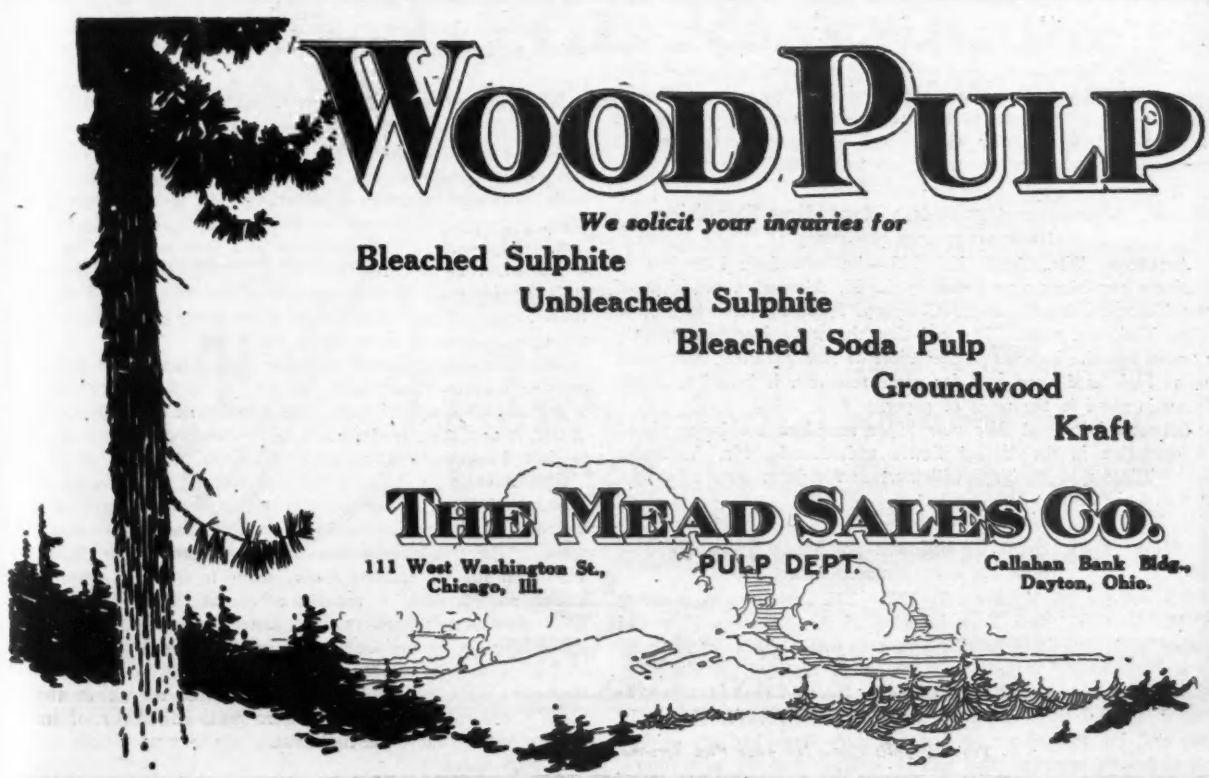

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fied and softened. The treatment at both of these plants must, naturally, be controlled by tests. In the power plant there are numerous instruments for measuring and recording temperature, pressure, steam flow, vacuum, draft, carbon dioxide, electrical units, water evaporated; all controlling the conversion of coal into usable form.

Recording instruments have been installed as a means for securing better control wherever they are practicable. We have them in every plant of our group of plants and they number over one hundred. They give a continuous picture of what has happened hours and days past as well as of what is going on at present. They furnish not only the written record of the operation but also a better guide to the operators, and in this latter capacity they contribute most to control. In fact, all of these control methods are designed to aid in operation. If the results of tests are not properly interpreted and used, such a control system is of little value. In order to make these tests as practical as possible, numerical expressions for quality have been developed. Thus for instance the color of pulp is not expressed as good, very good, or fair or poor but as 100, 90, 85 or 70. Likewise we do not say that the pulp is dirty but rather that it has a certain number of dirty specks per pound of pulp. Such expressions give everyone concerned a definite knowledge of conditions that is bound to produce good results.

Scope of Laboratory Work

This testing and control of the processes constitutes a large portion of the work of the Laboratories. The Mill Control Laboratory is concerned chiefly with purely control tests and operates continuously with the mill. The Analytical Laboratory has the analysis of all raw material. In the Paper and Color Laboratory is done all the work on the testing of paper and dyestuffs. The Research Laboratory is somewhat involved also in that control methods are developed in this department before they are actually used as such.

This article tells where control is applied and in many cases why, but it would involve too much detail to explain how these tests are made. These methods are familiar to many who have visited the Laboratories, and who after becoming acquainted with this phase of the work, have offered valuable suggestions through which much of the control work has been developed. Those not engaged in mill operation will do well to investigate the methods as they will find them interesting and instructive.

L. M. Alexander Optimistic Regarding Conditions

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., April 30, 1923.—An optomistic interview of business conditions was given by L. M. Alexander, president of the Nekoosa-Edwards Paper Company, following his return from New York last week. He said that the wage increases recently granted and the increase in the prices of raw materials, amounting to as high as 30 per cent for some products, is bound to result in an increase in the price of paper.

Between forty and fifty new paper machines are being placed in operation in the United States and Canada, Mr. Alexander said. These new machines will increase the paper output between 5 and 8 per cent.

New York Superintendents to Meet June 20

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., April 30, 1923.—The annual spring meeting of the Northern New York Division of the American Pulp and Paper Mill Superintendents' Association will be held on June 20, it was announced Saturday by Homer E. Stafford, of Knowlton Brothers, president of the association. He said that in all probability the meeting would be held at the Woodruff Hotel in this city, but that as yet he and Secretary Argy had not worked out a definite program. This will be announced in the near future.

Appraisals

In a recent issue of the Typothetæ Bulletin appeared details of the case of a printer who, after a number of solicitations, had joined the U. T. A., which, of course, necessitated the adoption of the cost accounting system recommended by that organization. One of the first requirements of the installation of this system is an appraisal of the plant and equipment of the member joining. This appraisal includes every tool and piece of material in the establishment, for which a replacement value, as well as a sound value, is given.

As a result of the appraisal in the case under discussion, it was found that the insurance being carried on stock was greater than was necessary, whilst that on machinery and equipment was a great deal less than it ought to have been. This was changed, which was a very fortunate thing for the printer, because only a week later a fire occurred which practically ruined the plant.

This is what followed, in the words of the printer:

"When the time for adjustment came, we knew exactly what was in our establishment, and we had something on which to base our claim, which was adjusted in a manner which, I believe, was satisfactory to all concerned. The insurance company knew that we had something to back us up, and we knew every piece of material that was in our place the day before the fire.

"I cannot recommend too strongly the value of having an appraisal of a plant, because one can never tell what minute they may have use for it. It is the best and most valuable, as well as cheapest, insurance anyone can have, and we have the cost department of our association to thank for the saving to us of probably thousands of dollars."

This statement speaks for itself. Every properly conducted cost system should, of coarse, be based upon a correct appraisal, and, in addition, these appraisals, of course, will always prove extremely useful in case of a fire. Pulp and paper manufacturers who have not had their mills appraised during the recent years might be interested in this instance where, as the executive himself states, the appraisal "probably saved him thousands of dollars," and consider the advisability of having their mill appraised in the near future.

High Water Danger Ended in Wisconsin

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., April 30, 1923.—Danger from high water in the Wisconsin River was ended early last week. Most of the snow has been melted in the north woods, and the water still is high, but paper mill men no longer are expecting floods. The water did not reach the high stage of a year ago.

The water in the Fox River now is the highest this season, but it is far from the flood stage, and is not handicapping the paper mills to any extent. Most of the sluice gates in Fox Rover dams are open to assist in carrying off the water.

The mills of the Marathon Paper Mills Company at Rothschild and the Wausau Paper Mills Company at Brokaw were closed for a few days because of high water, but have resumed operations Water flowed into the basement of the Brokaw mill, compelling it to shut down the machinery.

Generators at the Stevens Point mill of the Consolidated Water Power and Paper Company were closed down for several days, and one of the paper machines was idle because of insufficient power. The transmission line between Stevens Point, Biron and Wisconsin Rapids, enabling the company to transmit power where it was needed, made it possible to operate most of the Stevens Point plant even though its own generators were idle.

Breaking up of the ice jams in the Wisconsin River resulted in a quick drop in water. Big ice jams in the Menominee River were dynamited by employees of the Marinette and Menominee Paper Company and the waters were released. Reports from the western part of the State indicate that there is no serious menace from high water.

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STRONG SULPHITE
indirect cooking

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DIESEN	Bleached Sulphate
ESSVIK	Unbleached Sulphite
KROGSTAD	Easy Bleaching Sulphite

Stocks Carried on Dock For Prompt Delivery

CHRISTIANIA NEW YORK GOTHENBURG

Imports and Exports of Paper and Paper Stock

NEW YORK; BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING APRIL 28, 1923

SUMMARY

News Print .....3,016 rolls, 309 bls.
Wrapping Paper .....1,719 bls., 958 rolls
Cigarette Paper .....1,026 cs.
Hangings .....6 cs., 73 bls.
Wall Paper .....1,077 bls., 3 cs.
Tissue Paper .....41 cs.
Printing Paper .....188 cs.
Filter Paper .....22 cs., 2 bls.
Drawing Paper .....15 cs.
Blue Print Paper .....38 rolls
Packing Paper .....16 rolls
Glazed Paper .....2 cs.
Metal Paper .....10 cs.
Colored Paper .....12 cs.
Fenestra Paper .....23 cs.
Tinfoil Paper .....21 cs.
Writing Paper .....4 cs.
Miscellaneous Paper....2,576 rolls, 382 bls., 19 cs.

CIGARETTE PAPER

American Tobacco Co., Collamer, Bordeaux, 85 cs.
R. J. Reynolds Tobacco Co., Collamer, St. Nazaire, 510 cs.
DeManduit Paper Corp., by same, 270 cs.
P. J. Schweitzer, Lapland, Antwerp, 15 cs.
Rose & Frank, McKeesport, Havre, 146 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., Cedar, Liverpool, 18 bls.
A. C. Dodman, Jr., by same, 2 bls.
W. H. S. Lloyd & Co., Mississippi, London, 31 bls.
W. H. S. Lloyd & Co., by same, 5 cs.
A. C. Dodman, Jr., Baltic, Liverpool, 1 cs.
A. C. Dodman, Jr., by same, 22 bls.

WALLPAPER

A. Murphy & Co., by same, 2 bls.
A. Murphy & Co., Mongolia, Hamburg, 11 bls.
F. Murray Hill, by same, 6 bls.
W. H. S. Lloyd & Co., Lapland, Antwerp, 3 cs.
F. J. Emmerich, Veendam, Rotterdam, 7 bls.
The Prager Co., Pres. Fillmore, Bremen, 1,027 bls.
A. Murphy & Co., Cedric, Liverpool, 24 bls.

TISSUE PAPER

F. C. Strype, by same, 26 cs.
C. H. Wyman Shipping Co., by same, 4 cs.
Meadows Wye & Co., by same, 4 cs.
F. C. Strype, Baltic, Liverpool, 1 cs.
C. H. Wyman Shipping Co., by same, 7 cs.

PRINTING PAPER

B. F. Drakenfeld & Co., by same, 9 cs.
B. F. Drakenfeld & Co., Cedric, Liverpool, 30 cs.
Perry, Ryer & Co., Cameronia, Glasgow, 149 cs.

FILTER PAPER

E. H. Sergeant & Co., Puget Sound, Gothenberg, 11 cs.
C. D. Stone & Co., Albania, London, 1 cs.
A. Giese & Sons, La Bourdonnais, Havre, 2 bls.
Globe Shipping Co., Thuringia, Hamburg, 7 cs.
H. Reeve, Angel & Co., Mississippi, London, 3 cs.

DRAWING PAPER

H. Reeve, Angel & Co., by same, 4 cs.
Keuffel & Esser, Thuringia, Hamburg, 11 cs.

BLUE PRINT PAPER

Keuffel & Esser, by same, 38 rolls.

WRAPPING PAPER

Wilkinson Bros. & Co., Inc., Topdalsfjord, Ranheim, 288 bls.
Wilkinson Bros. & Co., Inc., by same, 58 rolls.
Fernstrom Paper Co., Inc., by same, 325 rolls.
Fernstrom Paper Co., Inc., by same, 215 bls.
Ladenburg, Thalman & Co., Clara, Trieste, 395 bls.
Import Paper Co., Thuringia, Hamburg, 57 bls.
Equitable Trust Co., by same, 376 bls.
Chemical National Bank, F. Buloy, Hamburg, 88 bls.
Chemical National Bank, by same, 468 rolls.
Chase National Bank, by same, 86 rolls.
Chase National Bank, by same, 54 bls.
National City Bank, by same, 246 bls.

PACKING PAPER

Wilkinson Bros. & Co., Clara, Trieste, 16 rolls.

GLAZED PAPER

Richardson Bros., Baltic, Liverpool, 2 cs.

METAL PAPER

Hensel,Bruckman & Lorbacher, Mongolia, Hamburg, 10 cs.

NEWS PRINT

Parsons & Whittemore, Hannover, Bremen, 3,016 rolls.
Parsons & Whittemore, by same, 237 bls.
Chemical National Bank, Mongolia, Hamburg, 72 bls.

COLORED PAPER

S. Langerdorf, Thuringia, Hamburg, 12 cs.

FENESTRA PAPER

Birm & Wachenheim, Lapland, Antwerp, 23 cs.

TINFOIL PAPER

Enoch Morgan Sons, Caronia, Liverpool, 21 cs.

WRITING PAPER

Coenca, Morrison & Co., LaSavoie, Havre, 4 cs.

PAPER

C. K. MacAlpine & Co., Puget Sound, Gothenburg, 100 rolls.
M. O'Meara Co., by same, 92 rolls.
M. O'Meara Co., by same, 4 bls.
Birn & Wachenheim, Thuringia, Hamburg, 100 bls.
Republic Bag & Paper Co., by same, 1,774 rolls.
Republic Bag & Paper Co., Reliance, Hamburg, 273 rolls.
Birn & Wachenheim, by same, 100 bls.
The Prager Co., Hannover, Bremen, 43 bls.
Birn & Wachenheim, F. Bulow, Hamburg, 100 bls.
Guaranty Trust Co., by same, 81 rolls.
D. S. Walton & Co., by same, 256 rolls.
M. G. Lange, Pres. Fillmore, Bremen, 4 cs.
Black Starr & Frost, LaSavoie, Havre, 3 cs.
Independent Forwarding Co., by same, 7 cs.
A. V. Berner, by same, 2 cs.
Whiting & Patterson, by same, 3 cs.
C. A. Johnson, Cedric, Liverpool, 35 bls.

RAGS, BAGGINGS, ETC.

Equitable Trust Co., Cameronia, Glasgow, 96 bls. rags.
E. J. Keller Co., Inc., United States, Copenhagen, 564 bls. rags.
Railway Supply & Mfg. Co., Malgache, Genoa, 110 bls. cotton waste.
Baring Bros. & Co., Archimedes, Manchester, 125 bls. cotton waste.
Ayres, Oddy & Co., by same, 67 bls. cotton waste.
Royal Manufacturing Co., by same, 49 bls. cotton waste.
Baring Bros. & Co., by same, 285 bls. bagging.
L. H. Abenheimer, by same, 86 bls. bagging.
Brown Bros. & Co., by same, 187 bls. rags.
Irving Bank Columbia Trust Co., by same, 39 bls. new cuttings.
Katzenstein & Keene, Inc., by same, 159 bls. new cuttings.
Katzenstein & Keene, Inc., Etna, Leghorn, 200 bls. rags.
Katzenstein & Keene, Inc., London Commerce, London, 152 bls. rags.
Katzenstein & Keene, Inc., by same, 160 bls. bagging.
Katzenstein & Keene, Inc., Elmsport, Rotterdam, 52 bls. rags.
Textile Trading Co., Mongolia, Hamburg, 54 bls. cotton waste.
National City Bank, LaBourdonnais, Havre, 359 bls. rags.
Castle & Overton, by same, 43 bls. rags.
Guaranty Trust Co., Collamer, Bordeaux, 145 bls. rags.
National City Bank, by same, 289 bls. rags.
W. Schall & Co., by same, 45 bls. rags.
E. J. Keller Co., Inc., Zeeland, Antwerp, 84 bls. jute waste.
E. J. Keller Co., Inc., by same, 367 bls. flax waste.
Castle & Overton, Chicago, Havre, 111 bls. bagging.
Castle & Overton, Veendam, Rotterdam, 63 bls. rags.
Parsons & Whittemore, by same, 212 bls. rags.
P. Berlowitz, by same, 185 bls. rags.
American Exchange National Bank, Lapland, Antwerp, 140 bls. hemp waste.
International Acceptance Bank, by same, 64 bls. flax waste.
Guaranty Trust Co., Hannover, Bremen, 80 bls. paper stock.
Chemical National Bank, by same, 432 bls. rags.
Merchants' & Metals' National Bank, Francisco, Newcastle, 168 bls. rags.
Ayres, Oddy & Co., Caronia, Liverpool, 140 bls. cotton waste.
Ayres, Oddy & Co., McKeesport, Havre, 77 bls. cotton waste.
E. Salomon Corp., by same, 128 bls. rags.
R. Ingram, by same, 13 bls. rags.
P. Berlowitz, by same, 561 bls. rags.
P. Berlowitz, by same, 69 bls. bagging.
International Acceptance Bank, Cedric, Liverpool, 19 bls. rags.
Williams & Wells, by same, 45 bls. cotton waste.

OLD ROPE

E. J. Keller Co.; Inc., United States, Copenhagen, 231 coils.
Brown Bros. & Co., by same, 75 coils.
International Acceptance Bank, Cameronia, Glasgow, 40 coils.
International Acceptance Bank, Archimedes, Manchester, 94 coils.
Brown Bros & Co., Albania, London, 268 coils.
Katzenstein & Keene, Inc., Portland Maru, Naples, 24 bls.
Brown Bros. & Co., Lapland, Antwerp, 54 bls.
Brown Bros. & Co., by same, 222 coils.
New York Trust Co., Hannover, Bremen, 321 bls.
Brown Bros. & Co., Veendam, Rotterdam, 215 coils.
International Acceptance Bank, Francisco, Newcastle, 226 coils.
W. Schall & Co., by same, 70 coils.
W. Schall & Co., Pres. Fillmore, Bremen, 58 coils.
Brown Bros & Co., Mississippi, London, 332 coils.
Brown Bros. & Co., by same 38 bls.
International Purchasing Co., McKeesport, Havre, 33 bls.
International Purchasing Co., by same, 30 rolls.
Chemical National Bank, Reliance, Hamburg, 25 coils.

WOOD PULP

Johanesson, Wales & Sparre, Puget Sound, Gothenburg, 305 bls., 61 tons.
R. F. Hammond, Inc., Topdalsfjord, Christiania, 1,000 bls., 200 tons.
Poland Paper Co., Topdalsfjord, Greaker, 3,850 bls., 872 tons.
Poland Paper Co., Clara, Trieste, 2,184 bls.
M. Gottesman & Co., Inc., by same, 706 bls.
M. Gottesman & Co., Inc., Clara, Sibenico, 4,000 bls.
Castle & Overton, Hannover, Bremen, 536 bls.
Castle & Overton, Pres. Fillmore, Bremen, 132 bls., 29 tons.
M. Gottesman & Co., Inc., by same, 600 bls. cellulose, 60 tons.
Seggerman Bros., Trolleholm, Gothenburg, 800 bls. dry sulphite.
National City Bank, by same, 6,400 bls. dry chemical sulphite.

CASEIN

Atterbury Bros. Inc., Chicago, Havre, 267 bags.
Asia Banking Corp., C. Pioneer, Auckland, 2,693 bags.
Bank of America, by same, 237 bags.
T. M. Duche & Sons, Vasari, B. Aires, 417 bags.
Bank of America, by same, 1,251 bags.
Brown Bros. & Co., by same, 1,251 bags.
National City Bank, by same, 250 bags.
J. A. & W. Bird & Co., Collamer, Bordeaux, 266 bags.
Monite Waterproof Glue Co., by same, 50 bags.
T. M. Duche & Sons, American Legion, B. Aires, 584 bags.
Atterbury Bros., Inc., by same, 1,393 bags.
Kalbfleisch Corp., by same, 1,667 bags.

NORFOLK (VA.) IMPORTS

WEEK ENDING APRIL 28, 1923

Fernstrom Paper Co., Inc., Trolleholm, Kristiania, 1,398 rolls wrapping paper.
Kalamazoo Stationery Co., Trolleholm, Greaker, 322 rolls news print.
Norfolk Ledger Despatch, Trolleholm, Drammen, 148 rolls news print.
Birmingham Paper Co., by same, 563 rolls news print.
Parsons & Whittemore, F. Bulow, Hamburg, 86 bls. news print.

(*Continued on page 68*)

Spray is uniform and soft and the nozzles

WILL NOT CLOG

Buffalo Spray Nozzles Keep Down Foam Bubbles on Wet End of Paper Machines

Full data on request

BUFFALO FORGE COMPANY

182 Mortimer Street, Buffalo, N. Y.

Vortex
DRINKING CUP
(Patented)
June 20, 1916, Reissued June 13, 1922;
March 26, 1918;
April 18, 1923;
Other Patents Pending
Canadian and Other Foreign Patents Granted and Pending
"One who manufactures, who uses, or who sells a device that infringes a patent is equally an infringer."
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Common Sense Compels the Protection of VORTEX SANITARY SERVICE

Several million Vortex Paper Cups are shipped from here daily to supply the thousands of soda fountains, theaters, clubs, railroads and industrial organizations who are using this more economical service.

And still the demand for VORTEX continues to grow larger and larger.

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Vortex
Drinking Cups

New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, May 2, 1923.

A week of steady trading, few price revisions and no radical changes has passed. The demand has been steady and dealers in all quarters of the paper market join with manufacturers in the opinion that this year will probably be one of the most prosperous the trade has ever known. It certainly bids fair to excel any since the war.

The one uncertain feature has been mechanical pulp, but this week the effect of the settlement of the strike in Swedish mills has begun to be felt. There were practically no price changes in either the domestic or imported grades and buyers seemed to have more confidence in their ability to get pulp, which had a steadying influence on the whole situation.

Ledgers, bonds and writing together with the other grades of fine paper moved at a slow but steady rate. Although the demand is not heavy it is steady and manufacturers say that they are not having any difficulty in disposing of their entire production.

News print continued in good demand with no prospect of the buyers diminishing with the coming of the summer months. Side runs are not in quite so much demand, but rolls and sheets are still selling up to the production of the mills. The only problem the manufacturers have to deal with is that of getting sufficient freight cars and that is rapidly being solved by the railroads themselves.

Book paper in all grades is selling well. Both the mills in the United States and those in Canada, who have representatives in New York, report that they are easily disposing of their production. There is no indication that the demand is strong enough to push prices up and it is likely that quotations will remain the same as they have been for the past two weeks.

Tissues moved a little more rapidly during the past seven days. Brisker buying is expected soon and the shoe, clothing and other large users of tissues are already making their influence increasingly felt in the buying.

Kraft, manila, jute and fiber papers have all been marking time this week without going forward or retreating. Prices on all of them remained firm and the demand steady with little reason to expect any change.

Various grades of board had the ups and downs that the keen competition and varying demand always makes in that field of the market. Prices on all varieties fell off a little just before this article was written, but this is not considered any indication of real weakness in the market. It is altogether possible that by the time the PAPER TRADE JOURNAL reaches its subscribers it will have regained the same level that it was at before.

Mechanical Pulp

Mechanical pulp is having about the same kind of market that is to be found in news print. Grinding mills are working at capacity speed and are having no trouble in selling all they can grind. Prices remained at the same level and it is thought that groundwood is now fairly stabilized. Dealers say that the demand has settled down to a strong, steady current and they have every reason to believe that the impetus gained now will carry this product right through the summer with little slackness.

Chemical Pulp

Chemical pulp has also become more stable during the week. Prices have not changed at all, which is considered remarkable, since they have been subject to wild fluctuations of late. Now that the labor difficulties in Scandinavia have been settled and the mills there are rapidly making up for lost production, manufacturers depending on foreign pulp for their mills are greatly relieved. The easier feeling has communicated itself to all parts of the pulp market, domestic and imported.

Waste Paper

Waste papers have weakened a little in all grades although not enough to cause dealers any alarm. The demand is still good and the lowered quotations are attributed to the spring collections reaching the market. There is no sign that there will be any radical change in the near future.

Rags

Rags, both domestic and imported, pursued the even tenor of their way during the week just as they have been doing for the past month. New unbleached shirt cuttings went up a quarter of a cent a pound while the range in blue cotton overall became a little wider. New blue cotton also became slightly more costly although all of these changes were so small that they are not likely to affect the general trend of the rag market. Dealers say that they do not look for any change in either direction for some time to come.

Old Rope and Bagging

Neither rope nor bagging showed any change during the week. Rope is slightly more in demand than bagging, but both are decidedly in the doldrums. Dealers are cheerful, however, and say that they expect more business within a short time.

Twine

There was no change in twine during the week. Prices remained firm and the demand steady, but not particularly heavy. A rise in price is to be expected because of increased production costs.

To Establish Waxed Paper Plant in Oakland

OAKLAND, Cal., April 26, 1923.—Establishment of another plant of a national manufacturing concern in Oakland was announced last week, following the purchase of a site on Doyle street for the erection of a large factory for the Western Waxed Paper Company, affiliated with the Central Waxed Paper Company of Chicago, manufacturers of printed and plain waxed paper products in the world.

The factory will be of reinforced concrete, one story in height, and have a floor space of 30,000 feet. It will cost $60,000. Selection of the Oakland site was made by R. A. McDonald, president of the Western Waxed Paper Company, after a thorough survey of manufacturing and distributing conditions in all California cities had been made.

Largest Load of Pulpwood in Maine

[FROM OUR REGULAR CORRESPONDENT.]

CALAIS, Me., May 1, 1923.—The largest load of pulpwood ever hauled in Maine, so lumbermen believe, was that taken from the woods at Venture Brook, near Dennysville, recently, by the Huggins crew. The load was piled on a sled 32 feet, or four cords long, inside 12 foot stakes. The scaler of the S. D. Warren Company, of Cumberland Mills, measured the load and found that owing to the spreading of the stakes, there were 12 cords and three feet, estimated to weigh 23 tons. This was hauled by one pair of horses from the woods to the railroad over a specially prepared road. The largest load of pulpwood previously reported measured 11 cords and was hauled by a team belonging to the Orono Pulp and Paper Company.

Good Progress on Valley Paper Mills

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., April 30, 1923.—Quite rapid progress is being made on the new plant of the Valley Paper Mills Company at Neenah. The concrete foundation is nearly finished, and laying of the superstructure will start in a week or two. The new plant is located near the plant of the Lakeview Paper Company, which was recently acquired by the Sears, Roebuck Company of Chicago.

It probably will not be until early in the fall that the new plant will be ready to receive its machinery.

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations May 1, 1923.

	BID	ASKED
American Writing Paper Company pref	25½	26
International Paper Company, com.	44½	45
International Paper Company, pref., stamped.	68	69½
Union Bag & Paper Corporation	73¾	75

Paper

F. o. b. Mill.

Ledgers	11.00	@	38.00
Bonds	9.00	@	45.00
Writings—			
Extra Superfine	16.00	@	35.00
Superfine	14.00	@	30.00
Tub Sized	10.00	@	15.00
Engine Sized	8.50	@	11.00
News—f. o. b. Mill—			
Rolls, contract	3.80	@	4.00
Rolls, transit	4.00	@	4.25
Sheets	4.25	@	4.50
Side Runs	3.50	@	4.15
Book, Cased—f. o. b. Mill			
S. & S. C.	7.25	@	9.00
M. F.	7.00	@	8.75
Coated and Enamel	9.00	@	14.00
Lithograph	9.00	@	14.00
Tissues—f. o. b. Mill			
White No. 1	.85	@	—
White No. 2	.80	@	—
Colored	1.10	@	—
Anti-Tarnish	1.40	@	—
Kraft	.90	@	.95
Manila	.80	@	—
Kraft—f. o. b. Mill—			
No. 1 Domestic	7.00	@	7.50
No. 2 Domestic	6.50	@	7.00
Imported	6.50	@	7.00
Screenings	3.25	@	3.50
Manila—			
No. 1 Jute	8.50	@	9.00
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.50	@	5.50
No. 2 Wood	4.00	@	4.50
Butchers	4.25	@	4.75
Fibre Papers—			
No. 1 Fibre	6.00	@	6.25,
No. 2 Fibre	5.25	@	5.50
Common Bogus	3.50	@	—
Card Middies	4.00	@	5.00
Boards—per ton—			
News	62.00	@	68.00
Straw	60.00	@	65.00
Chip	60.00	@	64.00
Binders' Board	82.00	@	85.00
Sgl. Mla.l.l. Chip	80.00	@	85.00
Wood Pulp	75.00	@	83.00
Container	80.00	@	85.00
Wax Paper—			
Self Sealing White 28 and 30 lb. basis	11.00	@	12.00
Waxed Tissue	1.56	@	1.65
Glassine—			
Bleached, basis 25 lbs.	15.00	@	16.00
Bleached, basis 20 lbs.	17.00	@	18.00
Papermakers' Felts per ton—			
Dry	75.00	@	85.00
Saturated	65.00	@	75.00
Sheathing Paper, per ton—			
Rosin Sized (red and gray, 30 lbs. per 500 sq. ft.)	55.00	@	65.00

Mechanical Pulp

(Ex-Dock)

No. 1 imported	40.00	@	41.00

(F. o. b. Mill)

No. 1 Domestic	37.50	@	40.00

Chemical Pulp

(Ex-Dock, Atlantic Ports.)

Sulphite (Imported)—			
Bleached	4.50	@	5.00
Easy Bleaching	3.50	@	3.75
No. 1 strong unbleached	3.30	@	3.50
No. 2 Strong unbleached	2.85	@	3.10
No. 1 Kraft	3.25	@	3.40
Sulphate—			
Bleached	4.00	@	4.25
(F. o. b. Pulp Mill.)			
Sulphite (Domestic)—			
Bleached	4.50	@	5.00
Strong unbl'chd	3.00	@	3.25
Easy Bleaching Sulphite	3.00	@	3.50
News Sulphite	2.75	@	3.00
Mitscherlich	3.10		3.40
Kraft (Domestic)	3.05	@	3.30
Soda Bleached	4.25	@	4.50

Domestic Rags

New Prices to Mill, f. o. b. N. Y.

Shirt Cuttings—			
New White, No. 1	13.75	@	14.25
New White, No. 2	7.00	@	7.50
Silesias, No. 1	7.75	@	8.25
New Unbleached	11.25	@	11.75
Washables	5.00	@	5.50
Fancy	6.75	@	7.25
Cotton—acording to Grades—			
Blue Overall	7.25	@	8.25
New Blue	5.00	@	5.25
New Black Soft	5.00	@	5.50
New Light Seconds	3.00	@	3.25
O. D. Khaki Cuttings	4.75	@	5.25
Men's Corduroy	3.25	@	3.75
New Canvas	7.00	@	7.50
New Black Mixed Old White, No. 1—	2.75	@	3.00
Repacked	6.00	@	6.50
Miscellaneous	5.50	@	5.75
White, No. 2—			
Repacked	3.50	@	4.00
Miscellaneous	3.00	@	3.25
St. Soiled, White	2.00	@	2.25
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.87	@	2.12
Black Stockings	3.12	@	3.37
Roofing Rags—			
Cloth Strippings	1.70	@	1.80
No. 1	1.50	@	1.60
No. 2	1.50	@	1.60
No. 3	1.10	@	1.20
No. 4	1.10	@	1.20
No. 5A	1.10	@	1.20

Foreign Rags

New Light Silesias	6.00		nominal
Light Flannelettes	6.75		nominal
Unbl'chd Cottons	7.50		nominal
New White Cuttings	9.50		nominal
New Light Oxfords	6.00		nominal
New Light Prints	4.50		nominal
New Mixed Cuttings	2.00	@	2.50
New Dark Cuttings	1.90	@	2.10
No. 1 White Linens	10.00		nominal
No. 2 White Linens	6.50		nominal
No. 3 White Linens	5.00		nominal
No. 4 White Linens	3.50		nominal
Old Extra Light Prints	2.00		nominal
Ord. Light Prints	1.75		nominal
Med. Light Prints	1.50		nominal
Dutch Blue Cottons	1.85		nominal
German Blue Cottons	1.65		nominal
Ger. Blue Linens	3.50		nominal
Checks and Blues	1.50		nominal
Dark Cottons	1.30	@	1.35
Shoppery	1.00	@	1.05
French Blues	1.75	@	2.00

Bagging

Prices to Mill F. o. b. N. Y.

Gunny No. 1—			
Foreign	1.00	@	1.10
Domestic	1.00	@	1.10
Wool, Tares, light	1.45	@	1.55
Wool, Tares, heavy	1.45	@	1.50
Bright Bagging	1.05	@	1.20
No. 1 Scrap	1.05	@	1.20
Sound Bagging	.85	@	.95
Manila Rope—			
Foreign	6.25	@	6.50
Domestic	6.50	@	6.75
New Bu. Cut	2.15	@	2.25
Hessian Jute Threads—			
Foreign	5.95	@	6.25
Domestic	2.20	@	2.40
Mixed Strings	.90	@	1.00

Twines

Cotton—(F. o. b. Mill)			
No. 1	.35	@	.37
No. 2	.31	@	.33
No. 3	.37	@	.39
India, No. 6 basis—			
Light	.20	@	.21
Dark	.19	@	.20
B. C., 18 basis	.41	@	.42
A. B. Italian, 18 Basis	.51	@	.61
Finished Jute—			
Dark, 18 basis	.29	@	.30
Light, 18 basis	.26	@	.27
Jute Wrapping, 3-6 Ply—			
No. 1	.23	@	.24
No. 2	.21	@	.22
Tube Rope—			
4-ply and larger	.15	@	.17
Fine Tube Yarn—			
5-ply and larger	.19	@	.21
4-ply	.20	@	.22
3-ply	.20	@	.22
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.18	@	.19
Jute Rope	.17	@	.20
Amer. Hemp, 6	.33	@	.35
Sisal Hay Rope—			
No. 1 Basis	.15	@	.17
No. 2 Basis	.13	@	.15
Sisal Lath Yarn—			
No. 1	.14	@	.15
No. 2	.11	@	.13
Manila Rope	.18	@	.19

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, White, No. 1	4.12	@	4.37
Hard, White, No. 2	3.65	@	3.85
Soft, White, No. 1	3.50	@	3.60
Flat Stock—			
Stitchless	2.25	@	2.35
Over Issue Mag.	2.25	@	2.30
Solid Flat Book	2.15	@	2.25
Crumpled No. 1	1.90	@	2.00
Solid Book Ledger	2.80	@	3.00
Ledger Stock	2.45	@	2.55
New B. B. Chips	.90	@	1.00
Manilas—			
New Env. Cut	2.50	@	2.75
New Cut No. 1	2.00	@	2.25
Extra No. 1 Old	1.80	@	1.90
Print	1.45	@	1.55
Container Board	1.20	@	1.30
Bogus Wrapper	.95	@	1.05
Old Krafts, machine compressed Bales	2.20	@	2.30
News—			
No. 1 White News	2.10	@	2.20
Strictly Overissue	1.20	@	1.30
Strictly Folded	1.05	@	1.10
No. 1 Mixed Paper	.90	@	1.00
Common paper	.60	@	.65

CHICAGO

[FROM OUR REGULAR CORRESPONDENT.]

Paper

F. o. b. Mill

All Rag Bond	35	@	40
No. 1 Rag Bond	30	@	35
No. 2 Rag Bond	18	@	25
Water Marked Sulphite	10	@	14
Sulphite Bond	9	@	12
Sulphite Ledger	11	@	14
Superfine Writing	18	@	24
No. 1 Fine Writing	14	@	22
No. 2 Fine Writing	12	@	20
No. 3 Fine Writing	9	@	12
No. 1 M. F. Book	6½	@	7
No. 1 S. & S. C. Book	7	@	7½
Coated Book	9	@	10¼
Coated Label	9	@	10
News—Rolls mill	4	@	4½
News—Sheets, mill	4½	@	4¾
No. 1 Manila	4¾	@	6
No. 1 Fibre	5½	@	5¾
No. 2 Manila	4½	@	5
Butchers' Manila	4	@	4½
No. 1 Kraft	7	@	7½
No. 2 Kraft	6½	@	7
Wood Tag Boards	5	@	5½
Screenings	5	@	5½
Boards, per ton—			
Plain Chip	60.00	@	65.00
Solid News	65.00		70.00
Manila Lined Chip	70.00	@	72.50
Container Lined—			
85 Test	75.00	@	80.00
100 Test	80.00	@	85.00

Old Papers

F. o. b. Chicago

Shavings—			
No. 1 Hard White	3.75	@	4.00
No. 1 Soft Shav	3.60	@	3.70
No. 1 Mixed	1,65	@	1.75
No. 2 Mixed	1.50	@	1.60
White Envel. Cuttings	3.60	@	3.75
Ledgers and writings	2.10	@	2.25
Solid Books	2.10	@	2.25
No. 1 Books, Light	2.00	@	2.15
Blanks	2.25	@	2.40
Ex. No. 1 Manila	2.30	@	2.40
Manila Envelope Cuttings	2.40	@	2.50
No. 1 Manilas	1.60	@	1.70
Folders News (over issue)	1.25	@	1.30
Old Newspaper	1.15	@	1.25
Mixed Papers	1.15	@	1.25
Straw Clippings	1.15	@	1.20
Binders Clippings	1.15	@	1.20
Kraft	2.40	@	2.50
New Kraft Cuts	2.50	@	2.60
Reefing Stock, f. o. b Chicago, Net Cash—			
No. 1	39.00	@	—
No. 2	37.00	@	—
No. 3	35.00	@	—
No. 4	35.00	@	—

PHILADELPHIA

[FROM OUR REGULAR CORRESPONDENT.]

Paper

Bonds	.10	@	.60
Ledgers	.15	@	.40
Writings—			
Superfine	.15	@	.20
Extra fine	.12	@	.22
Fine	.20	@	.30
Fine, No. 2	.20	@	.25
Fine, No. 3	.15	@	.20
Book, M. F.	.06	@	.11
Book, S. S. & C.	.08	@	.15
Book, Coated	.08	@	.15
Coated Lithograph	.10	@	.15
Label	.08	@	.15
News	.05	@	.07
No. 1 Jute Manila	.12	@	.13
Manila Sul., No. 1	.08	@	.10
Manila No. 2	.07½	@	.08
No. 2 Kraft	—	@	.10
No. 1 Kraft	—	@	.11
Common Bogus	.02½	@	.03
Straw Board	75.00	@	85.00
News Board	65.00	@	70.00
Chip Board	62.50	@	67.00
Wood Pulp Board (Carload Lots)	1.25	@	1.50
Binder Boards—			
Per ton	75.00	@	80.00
Carload lots	75.00	@	80.00
Tarred Felts—			
Regular	48.00	@	50.00
Slaters	54.00	@	56.00
Best Tarred, 1-ply (per roll)	1.35	@	1.50
Best Tarred, 2-ply (per roll)	1.00	@	1.15
Best Tarred, 3-ply	1.50	@	1.65

Bagging

F. o. b. Phila.

Gunny No. 1—			
Foreign	1.25	@	
Domestic	1.20	@	1.25
Manila Rope	5.00	@	6.25
Sisal Rope	.75	@	.80
Mixed Rope	.75	@	.80
Scrap Burlaps	1.00	@	1.25
Wool Tares, heavy	2.50	@	2.75
Mixed Strings	.75	@	.80
No. 1, New Lt. Burlap	1.75	@	2.00
New Burlap Cuttings	1.75	@	2.10

Old Papers

F. o. b. Phila.

Shavings—			
No. 1, Hard White	4.00	@	4.25
No. 2, Hard White	3.50	@	3.75
No. 1 Soft White	3.60	@	3.75
No. 2 Soft White	2.00	@	2.25

(Continued on page 70)

Imports and Exports of Paper and Paper Stock

(*Continued from page 64*)

BOSTON IMPORTS

WEEK ENDING APRIL 28, 1923

The Borregaard Co., Dania, Christiania, 600 bls. wood pulp.
J. Anderson & Co., by same, 5,886 bls. wood pulp.
—to order—, by same, 2,774 bls. wood pulp.
J. A. & W. Bird & Co., Glenfinlas, B. Aires, 1,830 bags casein.
J. A. & W. Bird & Co., Cape May, Melbourne, 400 bags casein.
E. F. Ruso Co., Naperian, Manchester, 702 bags hide cuttings.
E. Butterworth & Co., Inc., by same, 876 bags hide cuttings.
E. Butterworth & Co., Inc., Welshman, Liverpool, 537 bags hide cuttings.
American Express Co., Naperian, Manchester, 22 bls. rags.
M. O'Meara Co., by same, 173 bls. bagging.
Train, Smith Co., by same, 308 bls. paper stock.
E. Butterworth & Co., Inc., by same, 389 bls. paper stock.
G. M. Granes Co., by same, 176 bls. rags.
E. Butterworth & Co., Inc., Welshman, Liverpool, 193 bls. paper stock.
E. Butterworth & Co., Inc., Glen Ridge, Antwerp, 99 bls. paper stock.
Train, Smith & Co., by same, 692 bls. rags.
G. M. Granes Co., by same, 81 bls. rags.
2nd National Bank of Boston, by same, 404 bls. rags.
International Purchasing Co., by same, 472 coils old rope.
International Purchasing Co., Naperian, Manchester, 108 coils old rope.
Old Colony Trust Co., Portland Maru, Naples, 51 coils, old rope.
Old Colony Trust Co., Portland Maru, Genoa, 284 coils old rope.

NEW BRUNSWICK (C.) IMPORTS

WEEK ENDING APRIL 28, 1923

Katzenstein & Keene, Inc., Brant County, London, 140 bls. rags.

PORTLAND (MAINE) IMPORTS

Poland Paper Co., Trolleholm Greaker, 3,750 bls. dry bleached sulphite pulp.

PHILADELPHIA IMPORTS

WEEK ENDING APRIL 28, 1923

D. L. Ward Co., Trolleholm, Drammen, 38 rolls news print.
C. K. MacAlpine & Co., Trolleholm, Gothenburg, 316 rolls paper.
C. K. MacAlpine, by same, 59 bls. paper.
D. S. Walton & Co., F. Bulow, Hamburg, 159 rolls paper.
Pittsburgh Paper & Twine Co., by same, 1,605 bdls. paper.
E. Butterworth & Co., Inc., Trolleholm, Christiania, 300 bls. dry bleached sulphite pulp.
Perkins, Goodwin & Co., by same, 600 bls. dry chemical pulp.
Nilsen, Lyon & Co., Inc., Trolleholm, Drammen, 2,500 bls. moist mechanical pulp.
Katzenstein & Keene, Inc., Malgache, Marseilles, 47 bls. rags.
E. J. Keller Co., Inc., Malgache, Genoa, 51 bls. cotton waste.
E. J. Keller Co., Inc., Mackinaw, Antwerp, 503 bls. rags.
E. J. Keller Co., Inc., by same, 349 bls. bagging.
E. J. Keller Co., Inc., Farnworth, St. Nazaire, 762 bls. rags.
E. J. Keller Co., Inc., Farnworth, Havre, 105 bls. rags.
E. J. Keller Co., Inc., Farnworth, Bordeaux, 205 bls. rags.
Castle & Overton, Manch Mariner, England, 112 bls. rags.
Castle & Overton, Homer City, Hamburg, 259 bls. rags.
Castle & Overton, Collamer, Bordeaux, 496 bls. rags.
W. Schall & Co., by same, 216 bls. rags
American Woodpulp Corp., by same, 60 bls. rags.
Ladenburg, Thalman & Co., F. Bulow, Hamburg, 812 bls. rags.
Irving Bank Columbia Trust Co., by same, 374 bls. rags.
Katzenstein & Keene, Inc., London Commerce, London, 147 bls. rags.
Katzenstein & Keene, Inc., Farnworth, Havre, 90 bls. rags.
Katzenstein & Keene, Inc., Homer City, Hamburg, 504 bls. rags.
Katzenstein & Keene, Inc., by same, 82 bls. bagging.

BALTIMORE IMPORTS

WEEK ENDING APRIL 28, 1923

M. Gottesman & Co., Inc., Trolleholm, Gothenburg, 49 rolls news print.
The American Press, Trolleholm, Christiania, 312 rolls news print.
The American Press, Trolleholm, Drammen, 720 rolls news print.
Diem & Wing Paper Co., by same, 54 rolls news print.
Guaranty Trust Co., F. Bulow, Hamburg, 47 rolls paper.
Hubles, Sarning Co., by same, 26 bls. paper.
Seggerman Bros., Trolleholm, Gothenburg, 1,600 bls. dry sulphite pulp.
Price & Pierce, Ltd., Trolleholm, Halmstad, 2,500 bls. dry chemical pulp.
Perkins, Goodwin & Co., Trolleholm, Christiania, 600 bls. dry chemical pulp.
Nilsen, Lyon & Co., by same, 900 bls. dry chemical pulp.
The Borregaard Co., Trolleholm, Brevik, 1,200 bls. dry unbleached sulphate.
American Woodpulp Corp., F. Bulow, Hamburg, 450 bls. cellulose, 90 tons.
H. Hellesen, by same, 948 bls. wood pulp, 189 tons.
J. Anderson & Co., by same, 150 bls. sulphite pulp, 30 tons.
Alex Brown & Sons, Liberty, Havre, 233 bls. rags.
L. H. Abenheimer, by same, 266 bls. rags.
L. H. Abenheimer, by same, 300 bls. bagging.
E. J. Keller Co., Inc., C. of St. Joseph, Marseilles, 186 bls. rags.
Alex Brown & Sons, McKeesport, Havre, 204 bls. rags.

NEW ORLEANS IMPORTS

WEEK ENDING APRIL 28, 1923

Katzenstein & Keene, Inc., Actor, Stockport, 65 bls. bagging.
Castle & Overton, Missouri, Havre, 389 bls. rags.

To Settle Holyoke Power Problem

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., May 2, 1923.—Present indications are that a working agreement will be made between the City of Holyoke and the Holyoke Water Power Company by which the present controversy will be ended. A meeting of manufacturers and business men was held Friday and the feeling seemed to be strong for a friendly understanding. The City of Holyoke by its Municipal Electric Plant furnishes power to many Holyoke paper mills and paper converters. The Holyoke Water Power Company does the same. The limit of the city plant is about reached; and this week the president of the Holyoke Water Power Company offered to sell the city at wholesale prices electricity that it could re-sell to power users making the city the contracting party. Among the concerns represented at the conference were the American Pad and Paper Company, American Tissue Mills, American Writing Paper Company, Chemical Paper Manufacturing Company, Crocker-McElwain Company, Eureka Blank Book Company, Franklin Paper Company, Hampden Glazed Paper and Card Company, Highland Manufacturing Company, The Marvellum Company, National Blank Book Company, New York and New England Company, Newton Paper Company, Parsons Paper Company, Perfect Safety Paper Company, Taylor-Logan Company, Papermakers, and White & Wyckoff Manufacturing Company.

It was voted in brief that they recommend to the Board of Aldermen that no commitments be made for the erection of a new steam plant by the city until further investigation.

Black River Regulating Case Set for June

[FROM OUR REGULAR CORRESPONDENT.]

WATERTOWN, N. Y., April 30, 1923.—Hearing on the writ of certiorari obtained by the International Paper Company to obtain a review by the Supreme Court of the apportionment of costs for the water storage plans of the Board of the Black River Regulating District has again been postponed. The date was to have been May 7, but it will now be held some time in June, according to announcement made here by Attorney Delos M. Cosgrove, who represents the board.

The International Paper Company takes the position that the $90,321 assessed against the company is excessive, unfair and unjust and out of proportion to the assessments against other powers involved. The attorney for the company takes the position that the powers of the company below this city will receive less benefit than those nearer the reservoir and should be assessed accordingly.

Members of the board feel that a very equitable assessment has been made, and that the contention of the International can not be maintained. Secretary E. S. Cullings pointed out that should the International succeed in this action and compel an assessment that would compel the powers near the reservoir to pay a larger proportion of the cost of the development, the company would establish a precedent which would cost them very much more on other rivers being regulated. In other words, a victory in this case would be more than offset by loss on other rivers where the ruling would apply.

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Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, MAY 2, 1923.

BLEACHING POWDER.—Bleach has been in consistent demand during the past three weeks. In drums it is selling from 2.00 to 2.10 cents a pound. The market is firm and prices are steady.

BLANC FIXE.—An active demand for blanc fixe has sent prices a shade higher in some quarters than they were a week ago. The pulp grade is quoted at from $50 to $55 a ton, while the dry is up to $87.50.

CHINA CLAY.—Market conditions in China clay remained the same during the week. Imported was quoted at from $16.25 to $23.25 a ton, depending upon the grade required, and domestic stood at from $15 to $16.50.

CAUSTIC SODA.—With the price firm at 2.50 cents a pound caustic remained in constant demand and producers have little trouble in disposing of their output.

CASEIN.—Coated paper manufacturers are keeping up a strong demand for casein, which is quoted at 21.50 to 23.50 cents a pound.

LIQUID CHLORINE.—Chlorine in cylinders, vats and tank cars has been in heavy demand during the week. Prices remained about the same ranging from 5.75 to 6.25 cents a pound. No change is anticipated in this quotation for some time.

PAPERMAKERS' GLUE.—With casein scarce and high priced glue manufacturers say that their business with paper mills is increasing. Prices remain in the neighborhood of 13 to 19 cents a pound.

ROSIN.—Papermaking grades of rosin remained at 6.15 to 6.30 cents a pound in 280 pound barrels. The price is not showing any tendency to fluctuate in spite of the fact that naval stores production is at its lowest mark during this season of the year.

SALTCAKE.—A firm price of from $25 to $27 a ton was quoted on standard saltcake during the week. No change is expected by dealers in this commodity.

SATIN WHITE.—Satin white is following blanc fixe in steady demand which is keeping the price steady on the various grades. They are now quoted at from 1.50 to 2.00 cents a pound.

SODA ASH.—Alkalis are improving in demand, soda ash among them. A price of 1.20 cents, in bags, is the latest quotation on this commodity.

STARCH.—Although there is a pronounced upward tendency in the starch market prices this week remained at from 2.80 to 3.09 cents a pound on papermakers' grades.

SULPHATE OF ALUMINA.—Dealers in sulphate of alumina reported that this chemical had an active work. The commercial grade is quoted at 1.45 to 1.60 cents a pound while the iron free is still in the vicinity of 2.55 cents.

SULPHUR.—There has been no price movement in sulphur during the week. The demand remained consistently good and quotations stayed at $18 to $20 a ton, ex-dock, New York.

TALC.—Papermaking talc maintained a steady pace during the week with the price on the American grade at $15 to $18 a ton.

F. E. Bragg Heads Bangor Rotary Club

[FROM OUR REGULAR CORRESPONDENT.]

BANGOR, Me., May 1, 1923.—Franklin E. Bragg, president of the Orono Pulp and Paper Company, was elected president of the Bangor Rotary Club at the annual election last week. Mr. Bragg has long been a prominent Rotarian and is a generally popular citizen of Bangor, active in all affairs pertaining to the public good. He has served as president of the Bangor Chamber of Commerce.

Market Quotations

(*Continued from page 67*)

No. 1 Mixed	1.60	@	1.75
No. 2 Mixed	1.25	@	1.50
Solid Ledger Stock	2.75	@	3.00
Writing Paper	2.50	@	2.75
No. 1 Books, heavy	2.25	@	2.50
No. 2 Books, light	1.40	@	1.50
No. 1 New Manila	2.75	@	3.00
No. 1 Old Manila	1.50	@	1.75
Container Manila	1.35	@	1.50
Old Kraft	2.25	@	2.50
Overissue News	1.50	@	1.60
Old Newspaper	1.20	@	1.25
No. 1 Mixed Paper	1.10	@	1.15
Common Paper	1.00	@	1.10
Straw Board, Chip	1.00	@	1.10
Binders Bd., Chip	1.00	@	1.10

Domestic Rags—New.
Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.12	@	.12¼
New White, No. 2	.07	@	
Silicias, No. 1	.07¼	@	.07½
New unbleached	.10	@	.11
Washables	.04½	@	
Fancy	.05¼	@	.05½
Cottons—according to grades—			
Blue Overall	.05½	@	.05¾
New Blue	.02½	@	.02¾
New Black Soft	.06¼	@	.06½
New Light Seconds	.02½	@	.02¾
Khaki Cuttings	.11	@	.04½
Corduroy	.03½	@	.04
New Canvass	.08¼	@	.08¾
New Black Mixed	.04	@	
Old			
White, No. 1—			
Repacked	.06	@	.06½
Miscellaneous	.04½	@	.04¾
White, No. 2—			
Repacked	.03½	@	.04
Miscellaneous	.03	@	.03¼
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.85	@	1.90
Black Stockings	2.75	@	3.00
Roofing Stock—			
No. 1	1.35	@	1.40
No. 2	1.25	@	1.30
No. 3	1.15	@	1.20
No. 4	1.15	@	1.20
No. 5A	1.10	@	
B			nominal
C			nominal

BOSTON

[FROM OUR REGULAR CORRESPONDENT.]

Paper

Bonds	.09½	@	.63
Ledgers	.09½	@	.55
Writings	.08½	@	.42
Superfine	.16	@	.26
Fine	.15	@	.18
Books, S. & S. C.	.07¼	@	.12
Books, M. F.	.06¼	@	.09½
Books, coated	.09	@	.15
Label	.09	@	.13
News, sheets	4.75	@	6.00
News, rolls	4.50	@	5.75
Manilas—			
No. 1 Manila	$6.00	@	7.00
No. 1 Fiber	.06½	@	.07
No. 1 Jute	9.00	@	10.50
Kraft Wrapping	.07	@	
Common Bogus	3.50	@	3.85

Boards

(Per Ton Destination)

Chip	$60.00	@	65.00
News, Vat Lined	60.00	@	65.00
Wood, Vat Lined	70.00	@	75.00
Filled News Board	60.00	@	65.00
Solid News Board	75.00	@	80.00
S. Manila Chip	75.00	@	80.00
Pat. Coated	90.00	@	105.00

Old Papers

Shavings—			
No. 1 Hard White	4.25	@	4.40
No. 1 Soft White	3.50	@	3.75
No. 1 Mixed	1.00	@	—
Ledgers & Writing	2.50	@	2.75
Solid Books	2.25	@	2.55
Blanks	1.50	@	1.65
No. 2 Light Books	1.75	@	1.90
Folded News, overissues	1.25	@	1.30
Gunny Bagging	1.50	@	1.65
Manila Rope	6.75	@	7.00
Common Paper	.75	@	.90
Old News	1.00	@	1.15
Old Kraft	1.90	@	2.00

TORONTO

[FROM OUR REGULAR CORRESPONDENT.]

Paper

(Mill Prices to Jobbers f. o. b. Mill)

Bond—			
Sulphite	.11	@	.12½
Light tinted	.12	@	.13½
Dark Tinted	.13½	@	.15
Ledgers (sulphite)	—	@	.13
Writing	.09½	@	.12
News, f. o. b. Mills—			
Rolls (carloads)	3.75	@	—
Sheets (carloads)	—	@	4.50
Sheets (2 tons or over)	—	@	4.75
Book—			
No. 1 M. F. (carloads)	9.00	@	—
No. 2 M. F. (carloads)	8.00	@	—
No. 3 M. F. (carloads)	7.50	@	—
No. 1 S. C. (carloads)	9.50	@	—
No. 2 S. C. (carloads)	8.50	@	—
No. 1 Coated and litho.	14.00	@	—
No. 2 Coated and litho	13.00	@	—
No. 3 Coated and litho.	12.25	@	—
Coated and litho., colored	14.25	@	—
Wrapping—			
Grey	5.00	@	—
White Wrap	5.75	@	—
"B" Manila	6.00	@	—
No. 1 Manila	7.25	@	—
Fiber	7.25	@	—
Kraft, M. F.	8.00	@	—
M. G.	8.15	@	—

Pulp

(F. o. b. Mill)

Ground wood	$35.00	@	38.00
Sulphite easy bleaching	70.00	@	75.00
Sulphite news grade	55.00	@	60.00
Sulphite, bleached	90.00	@	100.00
Sulphate	65.00	@	

Old Waste Papers

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.90	@	—
Soft White Book shavings	3.40	@	—
White Blk. News	2.15	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	2.30	@	—
Light and Crumpled Book Stock	2.15	@	—
Ledgers and Writings	2.50	@	—
Solid Ledgers	2.50	@	—
Manilas—			
New Manila Cut	2.20	@	—
Printed Manilas	1.85	@	—
Kraft	2.50	@	—
News and Scrap—			
Strictly Overissue	1.30	@	—
Folded News	1.30	@	—
No. 1 Mixed Papers	1.10	@	—

Domestic Rags—
Price to mills, f. o. b. Toronto
Per lb.

No. 1 White shirt cuttings	.13	@	.13½
No. 2 White shirt cuttings	.07	@	.07¼
Fancy shirt cuttings	.06½	@	.06¾
No. 1 Old whites	.04½	@	.05
Third and blues	.02¾	@	.03
Per cwt			
Black stockings	.03	@	—
Roofing stock:			
No. 1	—	@	—
No. 2	—	@	—
Roofing stock:			
Manila rope	.06½	@	.06¾
No. 2	1.55	@	—
Gunny bagging	.01¾	@	—